



BENCHMARKS

The Computing Center Newsletter
University of North Texas

VOLUME 14 NUMBER 3
May 1993

Computing and the Environment

By Claudia Lynch, *Benchmarks* Editor

Thursday, April 22, was Earth Day. On that day, it has become customary for people in many parts of the world to stepback and reflect on their relationship with the planet we all live on. Reflection may be good for the soul, but unless coupled with action, it does little to change and/or improve things. In the case of computer users, this is especially true. The reason? We generate an enormous amount of paper destined for the trash heap.

According to an article in *USA Weekend* ("Every garbage bag tells a story," by Maryalice Yakutchik, April 23-25, 1993, p. 18), 45 percent or more of landfill volume in the United States is taken up by paper. Most of that is "high quality" paper, which includes most computer paper, and newspapers. Contrast the volume of paper in landfills with the 3 percent taken up by fast-food packaging, styrofoam cups, and disposable diapers and you get an idea of just how important it becomes to keep as much paper as possible out of the landfills.

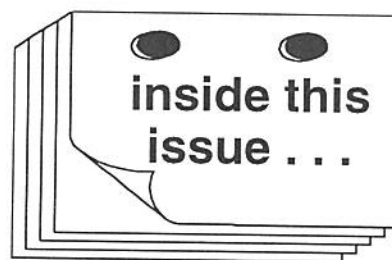
The Texas General Land Office (GLO) has put out a report entitled *Texas Recycles: Marketing Our Neglected Resources* (contact the GLO at Stephen F. Austin Bldg., 1700 N. Congress Ave., Austin, TX 78701-1495, Phone: 1-800-FOR-TCRC, for a complimentary copy). A chapter in the report entitled "Paper," comes to the following conclusion (pages 1-12):

Paper and paper products are the largest component of the solid waste stream in Texas, accounting for nearly 40 percent of everything that we throw away.

Want to Have a Positive Effect on the Environment?

Remember the three "Rs":

- ☐ **REDUCE** the amount of paper you use by proofreading your documents carefully before you print them.
- ☐ **REUSE** old printouts as scratch paper.
- ☐ **RECYCLE** your well-used printouts.



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☆ UNT COMPUTING CENTER ORGANIZATION AND FACILITIES ☆

Computing Center Support Services are available in the Information Sciences Building (ISB), Room 119; phone: (817) 565-2324 (TDD 1-800-RELAY-TX). The Computing Center consists of the following areas:

☐ **Academic Computing Services:**

- Documentation Services
- ISB 110 General Access Lab (817) 565-3048
- Mainframe User Services
- Research and Statistical Support Services
- VAX/UNIX Systems (817) 565-4161

☐ **Network & Microcomputer Services:**

- Data Communications
- Microcomputer Application Support
- Network Systems Support

☐ **Administrative Computing:**

- Admissions Data Systems
- Database/Central Programming Support
- General Data Systems
- NT/TCOM Fiscal Data Systems
- NT/TCOM Payroll/Personnel Data Systems
- Student Records Data Systems
- Student Services Data Systems
- Voice Response Applications

☐ **Mainframe Technical Services:**

- IBM Operating Systems Software Support
- Computer Operations



CONNECTING TO UNT COMPUTERS



Phone numbers for accessing UNT computing systems:

300-2400 BAUD: (817) 565-3300
 300/1200 BAUD: (817) 565-3499
 300-9600 BAUD: (817) 565-3461 HST protocol ONLY
 300-2400 BAUD: D/FW METRO 792-4140

Area code 214 must dial 817 before the METRO #. Note: Dialing 1 before the area code will result in a long-distance charge.

Set Data Bits to 7, Parity to S, and Stop Bits to 1. When dialing in, the auto-baud feature requires you to hit the <RETURN> key repeatedly after the connection is made so that the receiving modem can determine the baud rate. When you see the prompt (# for local numbers, UNTMODEMS> for the metro lines) you can enter one of the following commands to connect with the system of your choice.

SYSTEM	SYTEK/DENTON LINES (#)	METRO LINES (UNTMODEMS>)	INTERNET (CUTCP, NCSA)
<i>ACS Host Systems</i>			
Academic Mainframe (MUSIC, CMS, Academic COM-LETE)	CALL 3270	CONNECT VM3270	tn3270 vm.acs.unt.edu —OR— telnet vm3270.acs.unt.edu
VAX (VMS)	CALL DEC	CONNECT DEC	telnet vaxb.acs.unt.edu
Solbourne (UNIX)	CALL 900	CONNECT SOL	telnet sol.acs.unt.edu
<i>Departmental Systems</i>			
Computer Sciences Sequent (Ponder)	CALL 780	CONNECT PONDER	telnet ponder.csci.unt.edu
UNT Libraries' on-line card catalog	CALL 3000	CONNECT LIBRARY	telnet library.unt.edu

To exit from the local phone lines, press <ESCAPE><RETURN>, and type DONE (at the # prompt), then press <RETURN><RETURN>. To exit from the metro lines, press <CTRL-SHIFT-6>, then type DISCONNECT (at the UNTMODEMS> prompt), then press <RETURN>. Exiting from telnet and TN3270 is dependent upon the package. CUTCP uses <ALT-X>.

HOURS FOR UNIVERSITY OF NORTH TEXAS COMPUTER ACCESS AREAS : Summer 1993

Day of Week	Willis	BA	ISB 110	Chilton 255	Chilton 116	GAB	Matthews	Music	Terrill, Wooten	ISB 205C	Lab Locations
Monday - Thursday	Open 24 hrs.	8 am-11:45 pm	7:30 am-10 pm	8 am-10 pm	10 am-10 pm	8 am-Midnight	7 am-10 pm	8 am-10 pm	8 am-6 pm	Noon-10 pm	☉ BA: 330, 332 ☉ Chilton :255, 116 [Adaptive Lab] ☉ GAB: 330, 550 ☉ ISB: 110, 205C — graduate students only ☉ Matthews: 309 ☉ Music: 1007 ☉ Terrill: 247 ☉ Willis: 134 ☉ Wooten: 120
Friday	Open 24 hrs.	8 am-8 pm	7:30 am-6 pm	8 am-5 pm	1-5 pm	8 am-3 pm	7 am-5 pm	8 am-3 pm	8 am-3 pm	1-5 pm	
Saturday	Open 24 hrs.	8 am-8 pm	9 am-6 pm	10 am-5 pm	10 am-5 pm	Closed	10 am-5 pm	Closed	Closed	10 am-5 pm	
Sunday	Open 24 hrs.	Noon-11:45 pm	1-10 pm	Closed	1-10 pm	2 pm-Midnight	1-10 pm	1-8 pm	Closed	1-10 pm	

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When properly sorted, waste paper can be easily turned into a resource for new paper. Recycling paper saves significant space in landfills, saves 25 to 70 percent of the energy and 60 percent of the water required to make paper from virgin materials. In addition, about 17 trees are saved for each ton of recycled paper that replaces paper made from virgin pulp.

Although paper is being recovered in greater volumes than ever before, the U.S. lags behind other industrialized countries by 20 percent or more in its paper recycling efforts.

Texas is even further behind, with paper recycling at roughly half the nationwide average. Such a low recycling rate for such an easily recyclable commodity means Texas has great potential to expand its paper recycling.

Senate Bill 1340, the Omnibus Recycling Act

In 1991, Senate Bill 1340 was adopted by the Texas Legislature. This law sets a goal of recycling 40 percent of the state's total municipal solid wastes by January 1, 1994. The law also instructed the GLO to prepare a market development report about several recycled commodities. *Texas Recycles: Marketing Our Neglected Resources* is a result of that directive. "Major Provisions of Senate Bill 1340," a flier provided by the GLO, includes a directive to all governmental entities to establish **programs to separate and collect all recyclable materials** they generate, including at least, aluminum, office paper and cardboard. Another provision states that the Commissioner of Education will foster **educational activities and materials** concerning principles and problems. It also states that the Board of Education will encourage waste management degree programs and recycling research.

How are we doing at UNT?

According to Lanse Fullinwider, Physical Plant Operations Manager, and the person in charge of the recycling program at UNT, we have seen a significant increase in the recycling of materials since the recycling program began here in January of 1991. The estimated quantity of paper recycled last year was 239.64 tons, which works out to be 19.97 tons a month. According to Fullinwider, if newspapers were included in this, the figure would jump to over 30 tons a month. According to Fullinwider, the positive effect of recycling on the environment can be seen if you consider that the 432.40 tons of material we recycled last year (paper, cardboard, and aluminum), helped save:

- ☐ 7351 trees
- ☐ 3,026,800 gallons of water
- ☐ 1,772,840 kilowatt hours of energy
- ☐ 259,114 pounds of air pollution
- ☐ 1,297 cubic yards of landfill space

If you are having a hard time visualizing cubic yards of landfill space, you might try thinking about the equivalent of 1/3 of the Silver Eagle Suite, which would be a room 48 feet long, 53 feet wide, and 13 feet tall.

If your office is not currently participating in the recycling program, give Lanse a call at 2751. He will arrange for you to get recycling boxes and the information you need to start. If you're already recycling, keep up the good work! ■

Environmentally Friendly Computer Products

By Claudia Lynch, Benchmarks Editor
(as04@unt.edu)

Besides reducing the amount of paper we use, another thing that computer users can do to help the environment is use "environmentally friendly" products. These are becoming more prevalent on the market, as manufacturers are becoming aware of their customer's concerns.

Energy-Efficient Computers and Printers

According to *Publish* magazine (April 1993, p. 19), the Environmental Protection Agency (EPA) has established an "Energy Star" program to encourage the production of energy-efficient computers and printers. Beginning in June, computer and printer products that meet the Energy Star program specifications will be identified for consumers by a special Energy Star logo. An example of energy-efficient hardware would be equipment that had the ability to power down when it's idle or idle with lower power consumption. This could save up to 50 percent in energy usage per unit.

Energy-Efficient Chips

According *EDUPAGE* (referring to an article in the *New York Times* 4/20/93), Intel demonstrated an environmentally friendly alternative to the standard PC on April 19, 1993. Using energy-saving chips and circuitry, the new computer uses only half the electricity of standard models. Intel plans to make the new systems available to manufacturers later this year. ■

Do the Right Thing — Recycle Your Cartridge

By Jani Farlow Spede, Northeast Regional Data Center, University of Florida (jspede@nervm.nerdc.ufl.edu)

This article is reprinted from /Update (Volume 20, Number 5/6, 1992), the newsletter of the Northeast Regional Data Center, University of Florida. This article was received from the articles database of CCNEWS, the Electronic Forum for Campus Computing Newsletter Editors, a BITNET-based service of EDUCOM.

Stop! Don't contribute to the thousands of toner cartridges that are thrown away every day only to fill up our landfills. Toner cartridges are made of an oil-based derivative that won't disintegrate (a.k.a. plastic). But they are recyclable. Yes, just like most communities have made it convenient for you to recycle paper and aluminum, the makers of most laser printers have now made it easy to recycle your cartridges. In fact, many companies are footing the bill—they're paying the mailing expenses for you to return your used cartridge by UPS, instead of throwing it in the garbage. Some companies, like Hewlett-Packard (HP) and Apple, are even making donations to environmental organizations with every cartridge returned. When you return your cartridge to HP or Apple, they send the cartridge to Canon (the manufacturer). Canon, then, donates \$.50 to both The Nature Conservancy and the National Wildlife Federation. So, by recycling, you are helping the environment in more ways than one.

How to Recycle

If you own an Apple printer, you will notice that with every purchase of a new toner cartridge you receive a mailing label to use when you send your old cartridge back to Apple.

HP has a similar recycling program. As with Apple, you just put the old HP cartridge in the original box and mail it back to HP, free of charge.

Where Old Cartridges Go

If you recycle your toner cartridge, about 95% of the parts can be reused. The parts that aren't reusable are recycled (melted down) by the manufacturer.

Sometimes, parts from old cartridges are used to make remanufactured cartridges. What is a remanufactured cartridge? When a company recycles a cartridge, they first test it to see what parts are still in working order. The cartridge is then cleaned, worn out parts are replaced, the cleaning wand is refelted, and the cartridge is reassembled and retested. These rebuilt cartridges are good for the same number of pages as a new cartridge, and they are usually less expensive.

What about the Warranty?

Some people believe that using a remanufactured cartridge will void their existing printer warranty, especially when the recycling is done by a vendor other than the printer manufacturer. While manufacturers recommend that you use only their

rebuilt cartridges, they will still honor their warranties if you use a cartridge remanufactured from another vendor. So long as the remanufactured cartridge has nothing to do with the printer malfunction, your warranty is good.

So the next time you replace your printer cartridge, remember, you can help save the earth. Consider recycling. Help lessen the 150,000 cartridges that are dumped in our landfills monthly. And, if you'd like to save a few dollars, try using a remanufactured cartridge. Contact your vendor for information on purchasing a remanufactured cartridge, or having your cartridge recycled.

If you would like additional information about recycled toner cartridges, contact your vendor or the customer service department of your laser printer manufacturer. ■

Techno-Junk

From the New York Times (4/14/93), as reported in EDUPAGE (4/14/93), a summary of some of the week's news items on information technology, provided as a service by EDUCOM.

Imagine an acre of land, dug deep enough to stack 15 Empire State Buildings end-to-end, filled with obsolete hardware. If the current pace of junking outdated machines continues, this scenario will be reality by the year 2005, according to a Carnegie-Mellon University study. One group that is coping with the problem is IBM's Engineering Center for Environmentally Conscious Products, which has the goal of keeping "all IBM products out of landfills."

Editor's Note: IBM was one of nine U.S. organizations to receive the President's Environment and Conservation Challenge Award, according to the IBM Academic Information Systems Newsletter, Columns. IBM won in the Environmental Quality Management category. ■

Need You Worry About Ozone?

By Jani Farlow Spede, Northeast Regional Data Center, University of Florida (jspede@nervm.nerdc.ufl.edu)

This article is reprinted from /Update (Volume 20, Number 5/6, 1992), the newsletter of the Northeast Regional Data Center, University of Florida. This article was received from the articles database of CCNEWS, the Electronic Forum for Campus Computing Newsletter Editors, a BITNET-based service of EDUCOM.

Questions:

- 1 Your ozone filter is located in your
A) Automobile B) PC C) Laser printer D) Vacuum cleaner
- 2 Your ozone filter should be changed
A) Every six months B) Every three — four years C) Every five years D) Never

Answer Key

- **Question #1:** The best answer is C. Some laser printers have an ozone filter. Why? Because during the printing process, small amounts of ozone can be produced. Ozone may be bad for you, so printers use a filter to control the amount of ozone generated.
- **Question #2:** Depending on the type of laser printer you have, any of the above may be correct.

What is Ozone?

Unlike a regular oxygen molecule that consists of two atoms of oxygen (O_2), the ozone molecule has three atoms of oxygen (O_3). While ozone molecules are present in the air, the highest concentration of ozone is in the earth's upper atmosphere. Ozone is created by ultraviolet radiation and electrical discharges.

Ozone can be generated by laser printers while printing. During the electrophotographic process, corona assemblies place charges onto proconductive materials. A good way to think of a corona reaction is to imagine touching two wires together and getting a spark—like when you charge your car battery.

A corona reaction occurs in the air gap between the two conductors when a spark is produced. How does this relate to the process of printing in a laser printer?

When the laser printer prints, it goes through several processes, the first of which involves placing an electrical charge over a semiconductor's imaging surface. Ozone is produced in laser printers during this charging process.

The Dangers

If you can "smell electricity" you may be smelling ozone. Ozone, when it occurs in small concentrations, has been described as smelling sweet. Higher concentrations are likely to have a more pungent odor. Just as the ability to detect the odor of ozone varies among people, so too do the degrees of sensitivity to it. Usually, ozone generated by laser printers is produced in such small amounts that most people are

not affected by it. However, ozone has been reported to cause eye, nose, throat, and lung irritation, headaches, and even premature aging of the skin.

The Good News

Ozone generated by laser printers does not survive long. It is a very unstable molecule and it decomposes back to "regular" oxygen very rapidly in just a few minutes.

And, since even small amounts of ozone have been known to be an irritant to some people, limits have been established for the amount of ozone to which employees may be exposed. Most Universities adhere to The American Conference of Governmental Industrial Hygienists' Threshold Limit Value (or TLV), which has established a ceiling limit of 1/10 parts of ozone per million parts of air. This standard applies to the actual office space or work area.

What You Can Do

To be safe, it is best that any environment with a laser printer follow the guidelines listed below. These guidelines, if followed, will reduce the possibility of ozone posing a health risk.

- ☐ Make sure the relative humidity level of your work environment does not go below 10 percent.
- ☐ Operate your printer in a well ventilated place, not a small, confined area.
- ☐ Keep at least six inches of space around all sides of your laser printer.
- ☐ Do not direct the exhaust port of the printer towards yourself or anyone in your work area.
- ☐ Try to avoid long continuous printing.
- ☐ Change the ozone filter as suggested by your manufacturer. Filters can become clogged with dust; this reduces their effectiveness. Filters cost about a dollar for every thousand pages printed.

More Information

Some laser printer manufacturers have produced literature in response to the growing concern over this issue. You can obtain this information by contacting the manufacturer's customer service office. If you do not know the number of your manufacturer, call your vendor.

Printers and Ozone Filters

We contacted some of the most popular laser printer manufacturers to find out which brands have ozone filters and how often they should be changed.

Laser Printer	Ozone Filter	Recommended Replacement
Apple LaserWriter	Yes	Every 50,000 pages.
Brother	Yes	Every 50,000 pages.
Epson	Yes	Every six months.
Hewlett-Packard	Yes	Every three — four years, or 50,000 pages, whichever comes first (except for the IIP and the III si, which do not generate measurable amounts of ozone).
LaserMaster	Yes	Every 50,000 pages.
Texas Instruments	Yes	Every 50,000 pages, or when the OPC cartridge is replaced.

Group Promotes Socially Responsible Computing

By Sue Gier, James Madison University Office of Information Technology (OIT_SUE@VAX1.ACS.JMU.EDU)

Reprinted from the *Computer Connection* (Vol. X, No. 3, March/April 1993, p. 8), James Madison University's Office of Information Technology newsletter.

Computers are changing our world, but is it for the better? For those concerned with the effects of computer technology on society, Computer Professionals for Social Responsibility (CPSR) is a national, nonprofit organization working to influence decisions regarding the development and use of computers.

CPSR has taken an active role in areas such as the risk and reliability of computer technology, civil liberties and privacy, and computers in the workplace. For example, they played a key role in convincing Lotus Development Corp. not to release its proposed "Marketplace: Households" product, which would have included data on 120 million Americans.

According to the CPSR brochure "Technology is Driving the Future. It's Time to Find Out Who's Steering," CPSR members provide the public and policy makers with realistic assessments of the power, promise, and limitations of computer technology. As concerned citizens, CPSR directs public attention to critical choices concerning the applications of computing and how those choices affect society.

Members of CPSR believe that computer technology should make life more enjoyable, productive and secure. CPSR is working for a world in which science and technology are used not to produce weapons of war, but to foster a safe and just society.

CPSR can be contacted electronically at the address: cpsr@csli.stanford.edu ■

EWire: A New Source of Environmental Information

By Claudia Lynch, *Benchmarks* Editor (as04@unt.edu)

EWire debuted on Earth Day, 1993, providing "instant worldwide distribution of important environmental information." According to a press release, "EWire also provides research and data retrieval services in the environmental sector. With access to hundreds of databases and international sources of technical information EWire can deliver accurate background data on hundreds of ecologically specific subjects, organizations and products."

EWire is a public service collaboration of the *Environment News Service* and *Earth Day USA*. EWire is a forprofit venture, and a portion of the profits will be directed toward a trust fund for environmental education.

For more information about EWire, contact Jim Cabtree, Compuserve: 75040.3552 (Internet: 75040.3552@compuserve.com), Phone: 1-800-446-1211. ■

Accessing the EPA Online Library System

By Claudia Lynch, *Benchmarks* Editor
(as04@unt.edu)

The Environmental Protection Agency (EPA) National Library System is accessible via the Internet from any host computer at UNT (see the article "Getting Started on the Internet" on page 14 of the March/April 1993 issue of *Benchmarks* for more information). To access the system:

- ☐ Telnet to **epaibm.rtpnc.epa.gov** (134.67.208.25)
- ☐ **Select 4. Public** from the menu
- ☐ **Select 1** to choose the EPA National Online Library System
- ☐ At this point you can choose from a variety of options including the following:

N The National Catalog Database — The National Catalog Database (NCAT) contains EPA report bibliographic data and abstracts extracted from NTIS (National Technical Information Service), and catalog and holdings information from OCLC (Online Computer Library Center).

H The Hazardous Waste Database — The Hazardous Waste Database (HAZW) is a copy of the DBASE hazardous waste collection that is administered by EPA headquarters. This database contains references to key materials on hazardous waste in the EPA library network. Bibliographic descriptions, keywords, abstracts, locations and other information are listed for books, EPA re-

ports, Office of Solid Waste and Emergency Response (OWSER) policy and guidance directives, periodicals, and commercial databases containing information on hazardous waste.

L The Clean Lakes Database — The Clean Lakes Database (LAKE) is a resource for obtaining information concerning lake management protection, and restoration. The database was initiated in January 1988 in order to provide information dealing with topics such as restoration techniques, water quality assessment, lake problems, modeling, lake ecology, and other related topics. The database is made available to all researchers, EPA personnel, lake managers, and state and local governments.

CH The Chemical Collection System — The Chemical Collection System (CHEM) contains citations for items relating to chemicals.

I The Region I Database — The Region I Database (EHAL — the library code for the Region I Regional Office) contains the holdings of the Region I Library in Boston, and is maintained by Region I Library personnel.

V The Region V Database — The Region V Database currently holds the Region V library collection in Chicago, the Law Library (LAW), the GLNPO Library collection (ELAG), and the solid waste collection HR-J7 (SWIC). ■

List of the Month

Each month we will highlight one BITNET, Internet, or USENET Special Interest Group (SIG) mailing list. This month's list...

BIOSPH-L on **LISTSERV@UBVM.BITNET**

Coordinator: Dave Phillips (dave-p@acsu.buffalo.edu)

For the discussion of anything relating to the biosphere, pollution, CO₂ effect, ecology, habitats, climate, etc. Appropriate topics are basically anything that exerts an influence of some kind or another on the BioSphere.

*This mailing list will keep you informed of many of the environmental issues facing our globe. Postings have included news releases on environmental issues, research reports, and even tips on reducing chemical hazards in the home. If you are interested in subscribing to this mailing list, send the following command to **LISTSERV@UBVM** on **BITNET** or **LISTSERV@UBVM.CC.BUFFALO.EDU** on the Internet via the **BODY** of an E-mail or **BITNET** interactive message:*

SUBSCRIBE BIOSPH-L your full name

For example: **SUBSCRIBE BIOSPH-L Mother Nature** ■

Going Somewhere? Read This First

If you're graduating or will be off-campus and away from your computer accounts during the semester break or this summer, **PLEASE** remember to unsubscribe to any electronic mailing lists that you may be on. If you're graduating or otherwise leaving the University, electronic mail and LISTSERV files will continue to arrive until your User-ID is deleted, which could be months later. This puts an unnecessary load on the storage facilities of the computer systems where you receive your mail. It is also extremely irritating to the people who manage the LISTSERVS, who will eventually get return messages stating that mail was undeliverable to you.

So . . . be nice: If don't plan on reading your electronic mail for a week or more, send a message like the following (you can always resubscribe when you return):

On VM/CMS:

- To *suspend mail* on a specific list:
TELL LISTSERV@location SET
listname NOMAIL
- To signoff a *specific* list:
TELL LISTSERV SIGNOFF listname
- To signoff *all* lists:
TELL LISTSERV SIGNOFF *
(NETWIDE)

On VAX/VMS:

Use the same commands as above, substituting the word **SEND** for **TELL**.

To Get Back on the Lists:

Use the **TELL** or **SEND** command, as illustrated above, with the command **SUBSCRIBE listname your_name**.

Note: You will need to do this for each individual list you want to subscribe to.

If you suspended your mail, send the same message you sent before, but substitute the word **MAIL** for **NOMAIL**. ■

The Network Connection

By Dr. Philip Baczewski, Assistant Director, Academic Computing
Services and BITNET INFOREP (ac12@unt.edu).

*This column is a continuing feature of **Benchmarks** intended to present news and information on various aspects of wide area networks.*

Finding a Job via the Internet

If you are familiar with the Internet, chances are you have used it to communicate with a colleague elsewhere in the U.S. or the world. Maybe you've taken advantage of an anonymous ftp site to download some public domain or shareware software. What may not have occurred to you is that the Internet is becoming a handy resource for finding a job. As the use of the Internet expands, the availability of job listings seems a natural addition to the growing types of services and information exchanged via this global network. The types of jobs being publicized are growing in variety as well. A couple of Internet-based services will provide you with access to the information. A number of USENET discussion groups exist which are devoted to job opportunities. More recently, several Internet Gopher services have appeared which also support a job search.

News of the Working World

You'll find several different sources of employment information in USENET news groups.¹ These groups are scattered amongst various news hierarchies. Which hierarchy you check may depend upon the type of job for which you are looking. The following are some of the more obvious places to look:

- **misc.jobs.offered** — this group is probably the largest depository of employment opportunities, most in the computing, networking, and information services fields. The postings are not limited to those areas, however. The University of North Carolina Chapel Hill Staff Job Openings list is posted there on a regular basis. If you look hard enough, you can even find further diversity as in the posting which stated "Nanny wanted in Puget Sound area." Related to this group are the following ones (misc.) as well.
- **misc.jobs.contract** — positions offered on a "contract" basis.
- **misc.jobs.misc** — discussions about jobs and the process of getting them.
- **misc.jobs.offered.entry** — entry-level positions offered.
- **misc.jobs.resumes** — a forum for posting a resume or request for a position.
- **bionet.jobs** - jobs in the area of the biological sciences.
- **biz.jobs.offered** - business-related job postings, some of which are cross-posted from misc.jobs.offered.
- **tx.jobs** - contains job postings for locations in Texas. Most of these postings are computing related, however, there was also a recent post for a Director of Nursing for a new birthing center.

¹ For more information about USENET, see the ACS document "Making Connections" available at the Computing Center offices in ISB 119.

General Information

While many of the positions posted to the above news groups are computing related, the frequency of other types of posting is increasing. Another place to look for job postings are on specific discipline-oriented news groups or mailing lists. The HUMANIST mailing list carried on BITNET LISTSERV often includes job openings in the humanities areas. The list FED-JOBS@DARTCMS1 carries notices of Federal Government jobs which are available.²

The Gopher Connection

The other Internet resource to use when looking for employment opportunities is Internet Gopher. As reported previously in *Benchmarks*, Gopher is an on-line information delivery and network services access system.³ A number of resources are available in UNT's Gopher implementation in the "Employment Opportunities" menu.⁴ You'll find two entries in this menu:

- ☐ **University of North Texas Personnel Employment** — the jobs listing published weekly by UNT's personnel office.
- ☐ **Other** — various other job listing services around the Internet.

In the "Other" category the following resources may be of particular interest:

- ☐ **Academic Position Network** — The APN is an on-line system for placing and reviewing currently open academic position announcements. It was developed by the William C. Norris

²See "A List of Federal Job Openings" in the March/April issue of *Benchmarks*.

³For further information, see "NT Gopher" in the June 1992 issue of *Benchmarks*.

⁴Gopher client programs are available on the VAX, CMS, and the Solbourne host systems (just type GOPHER). If you don't have a User-ID on any of those systems, telnet to sol.acs.unt.edu and login as gopher with a password of gopher.

Institute, a nonprofit institute in Minneapolis, Minnesota. A one-time fee is charged to an institution for each announcement placed on-line. There is no charge for accessing and searching the service, which is provided via a Gopher server in Minnesota. The various job postings can be searched by words, specific discipline, institution or geography. For more information see the "APN User Instructions" entry under the "A.P.N. Information & Instructions" item.

- ☐ **Job Openings in Academe from *The Chronicle of Higher Education*** — anyone who has ever looked for an academic position has undoubtedly spent hours over that publication deciphering the index to panel ads. Decipher no longer! *The Chronicle of Higher Education* has instituted their own Gopher server called "Academe this Week." It features news and events summaries from the latest edition as well as the ability to search the *Chronicle's* job openings.

Searches can be performed according to the *Chronicle's* list of job titles or using any word or phrase. A word search can also be directed against either the entire listing or against one of five predefined geographical areas.

Some of the USENET news groups mentioned above are also accessible via the "Employment Opportunities/Other" UNT Gopher menu under the following headings:

- ☐ Biology Jobs from bionet.jobs
- ☐ Biz.Jobs.Offered
- ☐ Miscellaneous Jobs Offered (misc.jobs.offered)
- ☐ Texas Jobs from tx.jobs

As new sources of job information become available, they will be added to the NT Gopher system. It's probable that the Internet won't ever be the exclusive source for job information, but it is already a valuable resource that shouldn't be ignored. ■

Barron Leaves

Thousands— Well Maybe Hundreds— Mourn

By Dr. Philip Baczewski, Assistant Director, Academic Computing (ac12@unt.edu)

As of March 31, Billy Barron, former VAX/UNIX Systems Manager, resigned his position with Academic Computing Services in order to move to a similar position at the University of Texas at Dallas. Anyone who has been a frequent user of the VAX/VMS system in the past has undoubtedly benefited from Billy's expertise at one time or another. His list of accomplishments, however, extend far beyond simply overseeing the VAX system during his tenure at UNT.

Billy first joined Academic Computing in 1987 as a member of the VAX/VMS operations staff. In 1988, he succeeded Ron Brashear as VAX/VMS system manager. In his time at UNT, Billy was instrumental in: our becoming an ARPAnet node (the precursor to the Internet) and later a member of NSFnet; the expansion of VAX/VMS services; the expansion of wide area network services; and the acquisition of a central UNIX computing system. In addition, Billy attained a national and international reputation as a result of his publications about various Internet services and his compilation of a comprehensive guide to accessing library catalog systems over the Internet.

We wish Billy well in his new position at UTD. He will be missed. ■

Staff Activities

Transitions

The following people have been hired in the Computing Center since October 1, 1992:

Name	Area	Status
Brian Divers	Network & Micro Support	Full-time as of 2/1/93
Glenn White	Operations	Part-time as of 2/1/93
Scott Andrews	ACS General Access Lab	Part-time as of 2/1/93
Sean McMains	Network & Micro Support	Full-time as of 1/25/93
Amy Stringfellow	ACS General Access Lab	Part-time as of 1/15/93
Charles Mitcham	ACS General Access Lab	Part-time as of 1/15/93
Kelly Evans	Secretary	Part-time as of 1/19/93
Blair Copeland	Data Communications	Full-time as of 1/18/93
Chris Strauss	Network & Micro Support	Full-time as of 1/1/93
Jing Kong Lee	Operations	Part-time as of 10/1/92
Michael Katon	Operations	Part-time as of 10/1/92
Mike Wright	Network & Micro Support	Full-time as of 10/5/92
Yunn Shy Sam	Operations	Part-time as of 10/1/92
Faisal Bin Islam	Student Records Team	Full-time as of 10/1/92
Ovee Rahman	Network & Micro Support	Full-time as of 3/29/93
Virginia Kennedy	Student Records Team	Full-time as of 4/21/93
James B. Shaw	Support Services	Part-time as of 4/21/93
John Dodd	Administrative Clerk	Part-time as of 4/6/93
Charlotte Ford	Administrative Clerk	Part-time as of 4/12/93

The following people left the Computing Center since October 1, 1992.

Name	Area	Status
Curtis Elder	Student Records Team	Full-time, resigned as of 1/31/93
Stanley Sawyer	Asst. to Assoc. Vice President for Computing	Part-time (Retired), resigned as of 12/31/92
Charles Ridens	Operations	Full-time, retired as of 12/31/92
Randy Bell	Network & Micro Support	Full-time, resigned as of 10/31/92
Donna Carter	Network & Micro Support	Full-time, resigned as of 9/30/92
Billy Barron	Academic Computing	Full-time, resigned as of 3/31/93
Rickey Cooper	Operations	Full-time, resigned as of 4/30/93

Outstanding Employee

Jerry Waldon was honored as an outstanding UNT employee on February 8, 1993. Jerry is a long-time employee of the Computing Center in the Main-frame Technical Services area.

Conferences

Mike Murdock and **Patrick South**, both employees in the Network and Microcomputer Support area of the Computing Center, attended Novell's Brain Share conference in Salt Lake City, UT in March.

Mark Thacker, also of the Network and Microcomputer Support group, was among a select group of people invited to attend the annual Gopher conference in Minneapolis in April (see the article below). **Billy Barron**, former ACS VAX/UNIX System Manager, also attended.

Certifications

Mike Murdock, E-Mail Analyst in Network and Microcomputer Support, has become one of only a handful of people in Texas who are WordPerfect Certified Software Engineers (CSE). He passed a comprehensive exam this past November in order to receive this certification. ■

GopherCon '93

The Internet Gopher World Tour 1993

By Mark Thacker, CC1 Lan Manager
(thacker@unt.edu)

You are going to be hearing a lot about Gopher in the coming months. "Watch this space" for more information. — Ed.

What follows is a description of the GopherCon '93 workshop/conference held in Minneapolis, Minnesota on April 12-13, 1993. This conference was jointly hosted by the

University of Minnesota and CICNet and was held at the Radisson Hotel.

Monday - Gopher Workshop

The workshop attendees were limited to a invitation only list of 75 people. These people were those who had either contributed something of value to the code for Gopher (client or server) or who had attended the first Gopher-Con workshop in 1992 in Ann Arbor, Michigan.

□ History and Growth of Gopher —

The Gopher Team from UMN presented a brief history of Gopher. They mentioned the two years that a Campus Wide Information System committee had spent writing proposals and designing the ultimate CWIS without writing a line of code. As we all know, committees sometimes don't work, so the Gopher Team wrote the first set of Gopher server/clients on their own and showed it to the committee. The CWIS group hated it because it had not been written to committee standards and forbade the Gopher Team from releasing the product. The political situation changed a bit and the Internet Gopher was released to the world.

The Internet Gopher's growth rate is outstanding. In terms of the amount of traffic on the National Science Foundation's Internet backbone, Gopher went from 144th place in December 1991 to 9th place in December 1992 and is currently at 7th place for March 1993. There are currently over 1,200 Gopher servers around the world including some in Russia, Canada, Ecuador, Spain, Sweden, Switzerland, Chile and other countries.

- **Gopher+ Items** — The Gopher Team discussed several new features that are considered for Gopher+, the protocol extension to the Gopher protocol. It should be emphasized that Gopher+ does exist in beta stage now.

ASK blocks will allow for electronic forms to be included in Gopher. These forms are not very sophisticated, but they do allow simple multi-line free-form text input for user surveys. They could be used to have users request items from the Gopher administrator, as part of a quality survey about Gopher items, or to order items. They could also facilitate easier document uploading to Gopher and provide for a more 'fluid' Gopherspace (the term used to describe the interconnected Gopher servers).

The Gopher Team also emphasized the need for Gopher to support Unified Resource Names (UNR) and Unified Resource Locators (URL). They promised to include support as soon as these definitions were clarified by the Internet Engineering Task Force (IETF). They also wanted support for WHOIS++, which is a simpler way of implementing an X.500-like service dictionary. They also talked about their use of AdmitOne, a basic authentication tool used to provide access to secure information.

- **Item Attribute Registry** — There was a rather intense discussion concerning the use of Multipurpose Internet Mail Extension (MIME) document descriptors to replace those descriptors used in the current beta of Gopher+. The Gopher Team agreed to reconsider MIME document descriptors based upon work done by the Internet community to map MIME types to current Gopher+ types. This promises potentially greater naming standard compatibility between Gopher and other Internet utilities.

- **Veronica** — A Internet-wide (Gopherspace-wide) search utility called Veronica was described. It is designed to allow a person to search the entire scope of Gopherspace for a series of keywords describing the type of information they want. The Veronica development team (not related to the Gopher Team) described some extensions to the Veronica

system that allow it to search on keywords that describe an individual file within Gopherspace. Veronica's future looks very bright and several people are committed to making Veronica faster, more detailed, and more widely available.

- **Other Highlights** — Monday also featured some break-out sessions to discuss various topics related to the Internet and Gopher. In one session, Cataloging Electronic Journals and Resources, a working group was formed among several universities to help facilitate the discovery and searching of electronic periodicals and journals. This group would also work closely with the Veronica team.

Another group discussed the need for the AdmitOne technology in Gopher+ to be refined and to be modular. With modularity, a campus could substitute whatever encryption scheme they wanted (e.g., RSA, public key). Some possible security breaches were also discussed.

Another group discussed the idea of using Gopher as a front-end to commercial databases. These could include Sybase, Oracle, Z39.50, dBase and others. One of the Gopher Team members described the existing interface to MetalBase, a public domain DBMS.

- **Licensing** — Finally, there was a bit of an argument concerning licensing. Basically, the Gopher Team has decided to take a step back and re-evaluate their licensing policy. However, educational sites will most likely need not worry as client/server software will most likely continue to be free to them.

Tuesday - Gopher Conference

On Tuesday, there was an open invitation to people to attend the Gopher Conference. A total of about 220 people were scheduled to attend. Several people from outside of the United

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States attended, including some from Europe, South America, and Asia.

- **Summary of Monday** — The Gopher Team presented a summary of Monday's Workshop and the conclusions they had reached about Gopher+'s future. New commitments were made to maintain compatibility with other Internet protocols. Several break-out sessions followed. I have detailed the sessions that I attended.
- **Server Administration** — People from Notre Dame, Rice University, University of Michigan and University of Utah described some of the tools and administrative practices used at their sites. Most of the people agreed that a single Gopher server with at least one full-time person dedicated to CWIS management was the best model to follow. Some tools were presented to detail the number of connections and file downloads from a Gopher server. The Gopher Team related that their Gopher server gets over 50,000 connections per day. For reference, theirs is a mid-line Macintosh IIfx running Apple's A/UX Unix operating system.
- **Security/Authentication** — Here the modularity and need for AdmitOne was discussed. Several people pointed out esoteric ways of cracking the system, however, they agreed that there was room for AdmitOne in Gopher+. Several people asked for the ability to plug in their own security system (e.g., Kerberos, RSA, public-key encryption) in place of AdmitOne. The Gopher Team also agreed to consider these factors and make AdmitOne more secure.
- **Other Sessions** — Other working groups were formed to continue work on items such as organizing subjectmatter-based Gophers and making resource location and classification easier. The Gopher Team expects additional work from these new groups in the future and from the Internet community as a whole.

Summary

In summary, GopherCon '93 proved to be very educational and was a great opportunity to form working relationships with other VIPs in the Internet community. Gopher+ and Veronica

will evolve significantly due to this meeting of the minds. I also came away with a better understanding of Gopher tools and utilities to manage a Gopher server. I am looking forward to the collaborative work of the Internet community due to this conference. ■

Information Resources Council News



Minutes provided by Sue Harrison, Recording Secretary

IRC Regular Voting Members: Ray Vondran, Library and Information Sciences (Chair); Dave Barker, TCOM Information Resources Council; Cengiz Capan, College of Business; Carolyn Cunningham, Student Affairs; Paul Dworak, Faculty Senate; Chuck Fuller, Fiscal Affairs; Don Grose, Libraries; David Hartman, School of Community Services; Monica Holmes, Graduate Student Council; Stephen Farish, College of Music; Sam Magill, TCOM Director of Information Technology Services; Steve Miller, Administrative Affairs; Don Palermo, Academic Administration; Jean Schaake, College of Arts and Sciences; Beth Schlagel, School of Merchandising and Hospitality Management; Paul Schlieve, College of Education. **IRC Ex-officio Nonvoting Members:** Bill Buntain, Computing Center; Jim Curry, Microcomputer Maintenance Shop; Paul Gandel, Computing Center; Richard Harris, Computing Center; Coy Hoggard, Computing Center; Tom Newell, Telecommunications.

March 23, 1993

Chairman Vondran introduced the agenda item of Proposed IRC Committees by stating that the IRC has voted to have a standing committee, or Program Group, for Administration. The council has yet to vote the rest of the Program Groups into existence. He explained that the Program Groups will be Advisory Committees to the IRC, and as such, will provide the framework for the University strategic planning process in the area of information resources. A lengthy discussion followed.

Paul Dworak suggested, and it was agreed, that the minutes of each subcommittee and program group be made available through a database everyone would have access to.

At the conclusion of the discussion, the following recommendation was made: The Program Groups will be involved in planning; they will be advisory and facilitating groups; subcommittees can report directly to the IRC if the need arises; all meetings will be open; each of the groups will directly participate in the development of their own structure; and the program groups will consist of not only members or chairs of their constituent subcommittees, but also of members outside of the IRC, in order to gain fresh input. A motion to approve this recommendation was passed.

Please see page 13.

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Instructional Technology

Ray Vondran reported that a document setting forth standards for large classrooms, which has been adopted by the Instructional Technology Committee, had been sent to the Provost. The Chair distributed the document and asked for discussion. In summary of the discussion that ensued, Vondran stated that suggestions have been heard for increasing the capacity of the microcomputers to be installed in the classrooms, that multipurpose equipment be provided in the classrooms and that responsibility for operation and maintenance of the equipment be defined; that provision be made for supplemental technical training in the use of equipment that is provided; and that smaller classrooms need to be studied as well as an overall survey of facilities. Cengiz Capan moved that with the inclusion of the previously stated suggestions, the standards for large classrooms be approved if the funds are available now; however, if funding for equipment has not been allocated, then further planning should be done before purchases are made. Paul Schlieve added an amendment to Capan's motion, to note that since technology changes so rapidly, these standards will require annual review to prevent their obsolescence. There being no further discussion, the amended motion passed unanimously.

Internal Building Networking Project

Bill Buntain reported that a prebid opening meeting was held on March 10th with the bidders on the Internal Building Networking Project. The official bid opening is March 24; the indication was that after the bid is awarded it will take two to three weeks to work out the detailed paperwork with the contractor, after which the contractor will have 45 days in which to complete the project (this would point to a completion date around the end of May, if all goes well). In addition, his group will look at restructuring

ing a subsequent building wiring phase to bring up a couple more buildings, and in the meantime they have been working on a couple of smaller projects. They may try to accelerate the ITEC, Wooten, Music and Willis Library buildings, because there are parts of those buildings not yet wired.

Buntain reported that the Edwards, Chestnut & Highland Hall proposal has been presented (these buildings were not on the original plan). Funds are not available right now, but may be available in FY94. They are currently looking at a proposal to provide a temporary solution in Edwards Hall, for about 15 users, and then get funding later to wire it permanently.

Fiber Optic Project

Buntain also reported that the bids are still not out on the Fiber Optic project and cannot go out until a question about the use of West Hall has been answered. In addition, Buntain stated that they are waiting for delivery of 32 new modems which will help with the dial-in situation and his group has been doing some work on host dial up servers. Buntain also announced that there is a new version of the SAA Gateway workstation control program which has better memory management capabilities than the current version and should provide better support for swapping between applications and the gateway software.

Other Business

Buntain also reported that two Computing Center staff members are attending a Novell conference to learn more about a major new release of the NetWare operating system. He indicated that current plans are to not adopt the new version quickly, but wait to see how stable it is, since it involves a massive rewrite of Novell's system.

Paul Schlieve reported that he and Bill Buntain have been working with a technical working group to do evaluations and bring up E-mail system

packages for testing. This technical working group will make recommendations to the E-mail Task Force, who will, in turn, make a judgment about the E-mail system that will be established as the standard for the University.

For the IRC's May meeting, Paul Schlieve invited the IRC to participate in and experience the College of Education's distance learning technology by having half of the IRC members meet in Matthews Hall and the other half go to the Dallas public school facility now used for video conferencing. The meeting will then be conducted jointly by video. A decision on whether or not to accept the invitation will be made at the April 20th IRC meeting.

April 27, 1993

Ray Vondran presented a proposal from the ICR's Strategic Planning Committee on the composition of the new IRC Program Groups. The composition of the Administrative Program Group had already been approved at a previous IRC meeting, so the only new ones considered today were as follows:

- ① Instruction Program Group, made of up of 9 members, to be selected from the General Access Labs Committee, the Instructional Technology Committee, Academic Computing, Center for Instructional Services, Media Library, 2 positions from the Faculty, Staff and Students.
- ② Research Program Group, made up of 8 members, to be selected from the Library, Research and Academic Grants, Academic Computing, University Planning and Institutional Research, 2 positions from the graduate Faculty, Graduate Students, and Staff.
- ③ Communications Program Group, made up of 8 members, to be selected from the Computing Center, Academic providers, Network Managers Group, Telecommunica-

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tions, TCOM, Faculty, Staff and Students.

- ④ Standards and Cooperation Program Group, made up of 8 members, to be selected from Microcomputer Maintenance, 2 positions from the Computing Center, General Access Lab Managers, Network Managers Group, Faculty, Staff and Students.

Vondran also distributed a draft of proposed charges for each of the Program Groups. Discussion followed concerning the composition of each of the program groups, the results of which were several changes to the original list. A question was raised as to how selection of faculty and staff positions will be made, which resulted in a consensus by the committee that faculty positions would be selected by the Faculty Senate (with input from the IRC to enable the Faculty Senate to better select a person suitable to serve on a particular committee); staff positions would be selected by the Vice Presidents; graduate student positions would be selected by the Graduate Student Council, and undergraduate student positions would be selected by the Student Association. It was also agreed that the two Colleges/Schools representatives on the Administrative Program Group will be chosen by the Deans, that there will be an additional representative from the Chancellor's Office, and that there will be one faculty position, and one student position added, giving that group a total of 16 members.

A motion was passed which gave approval to the SPC's recommendation with the additions and changes made during the discussion. In the discussion that followed, the committee agreed that a temporary convenor to each of the groups would be appointed by the Chair of the IRC, together with the Strategic Planning Committee, to serve only until the groups get started. At each group's first meeting, a permanent convenor will be elected by the group itself. Richard Harris suggested that the convenor of each program group serve on the IRC's Strategic Planning Committee.

HEAF Budgeting Cycle

Richard Harris reported that the HEAF budgeting cycle for next year has begun. Harris explained that he has asked for lists of proposed priority projects from the Computing Center Directors; which, when compiled, will be presented to the IRC.

SACS Self-Study

Richard Harris distributed a draft of a Policy on Allocation of Computing Resources, which was written in an effort to comply with the requirements of the SACS Self-Study. Harris asked for comments from IRC members before May 5. Paul Schlieve suggested that the fact that the University collects specifically targeted fees for particular usage should be included in the policy. Harris also distributed the existing University Policies regarding the Computing Center, as well as a document outlining Policies and Procedures for Academic Computing.

UNT Wiring Projects

Bill Buntain distributed three maps of the campus which plotted out the status of the various phases of the UNT wiring projects. Buntain expressed the hope that Phase II would follow the end of Phase I, as closely as possible, with Phase III beginning before the end of this calendar year. Buntain noted that Items shown on the map as occurring in Fiscal Year 1994 have not yet been funded. In response to a question regarding the speed of the completion of Phase III, Buntain stated that he thought Phase III would proceed faster because some of the decisions regarding types of wiring and equipment to use have already been made during the planning of Phase I and II which will simply be carried out in Phase III.

Instructional Technology Committee

Ray Vondran reported on the most recent Instructional Technology Committee meeting, at which the following items of business were conducted:

- ① Nominations are being accepted for a new Chair of the Committee, with a vote to be taken at the May 5 meeting. Vondran asked for nominations from members of the IRC.
- ② The Committee examined the drawing of the proposed lectern to be installed in the newlyrenovated large classrooms, and approved C.I.S.'s design with a few suggested modifications.
- ③ A document outlining standards for small classrooms was distributed and will be discussed at the May 5 meeting.
- ④ Blueprints of the six large classrooms that will be renovated were viewed by the Committee.
- ⑤ Input was solicited from the ITC on the high-tech classroom to be built in the Lab Gym; a subcommittee was formed, chaired by Mark Withers of C.I.S., and will report back to the ITC on May 5.

Administrative Computing

Coy Hoggard reported that Administrative Computing is involved in the following projects:

- ① Support for the mission to move Registration functions out of the Coliseum with a target date of Oct. 1, 1993 for Spring 1994 registration.
- ② In the area of Payroll and Personnel, we have just completed the project to interface our HRMIS system with the State's ERS benefits system in order to report insurance enrollments, etc. for the new insurance plan. The Reconciliation project still remains to be done, pending receipt of specifications from the State

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Comptroller's Office. This is a joint UNT/TCOM project.

- ③ Also in the area of Payroll and Personnel, we are involved in meeting the State Comptroller's HRIS (Human Resources Information System) reporting requirements, which must go into production beginning with next fiscal year (FY '94). This is a joint UNT/TCOM project.
- ④ In the General Accounting area, we are involved with meeting the State Comptroller's USAS (Uniform State Accounting System) reporting requirements, which must go into production beginning next fiscal year (fy '94). This is a joint UNT/TCOM project.
- ⑤ The Student Services team is supporting Financial Aid (FAMS) to implement federally mandated modifications. We have a maintenance contract with the FAMS software developer (SCT), but we must apply, test, and implement modifications locally. Because of the magnitude of the modifications this year, the vendor chose to provide the changes in three phases. Phase I modifications have been received, tested, and implemented in production. Phase II modifications have not yet been received, but should be received by May 1. Phase III modifications are scheduled to be received by May 31.

Student Advising

Jean Schaaque suggested that a dedicated terminal be installed in each of the General Access Labs to enable students to check their schedules and to access other class-related information, as well as access information regarding course transfer equivalencies. Paul Schlieve further suggested making certain SIMS screens available to students, to allow them to find out what class sections are open, which would considerably shorten the time a student might have to stay on the phone for teleregistration trying to register for a class that has 31 sections.

It was pointed out by Cengiz Capan, that moving registration out of the Coliseum will put additional work on departments, advisors and lab assistants. It was noted that this might be a good time to look at the whole student advising process to see how it can be improved. Additionally, Paul Schlieve pointed out that if there is a terminal in each of the General Access Labs that students can use during registration periods, then labs will have to lengthen their hours of operation at those times, which will result in a need for more funds for the additional staff hours.

General Access Lab Fees

Cengiz Capan reported that at a special budget meeting of GALC, the committee determined that it would be necessary to raise GAL fees in order to make up budgetary deficits caused by de-

creasing enrollment. Capan distributed a set of tables to show the projections, and to show how the GAL budget is directly affected by decreases in enrollment. Several of the needs of the General Access Labs were noted, including equipment upgrades, a renovation of the library lab and others, which will necessitate a fee increase. Capan recommended that the IRC approve the GALC's request for a \$.75 per credit hour increase, which would bring the total fee per credit hour to \$3.00. It was suggested that information be made available to students enrolling and seeing the increase in fees, so that they become aware of how their fees are being used, and that a general education effort is needed because he was aware that many students didn't know General Access Labs were even available to them. Following discussion, the Council unanimously voted to approve the recommended fee increase. ■

1993 Summer Short Courses

Academic Computing Services
University of North Texas
Computing Center

Academic Computing Services is offering the following short courses for the 1993 summer sessions. Please preregister to attend (a registration form can be found at the end of this issue). **A maximum of 10 people will be admitted to each of the courses held in ISB 110. A maximum of 15 people will be admitted to each of the courses held in Chilton 255 and ISB 134B.** *Academic Computing Services reserves the right to cancel ANY course that has 5 people or fewer registered 3 days before the date of the course.*

Please see page 16.

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PLEASE NOTE: Faculty and students have first priority to register for these classes. All people registering for hands-on (ISB 110) HDS, VAX and/or UNIX courses should have current User-IDs. Applications for User-IDs are available in the Computing Center main office (ISB 119).

HDS, VAX, AND UNIX COURSES

1. **Introduction to CMS** — CMS is an interactive operating system employed by academic users to access the Academic HDS/8083 IBM-compatible mainframe computer at UNT. CMS users have access to a variety of programming languages, a sophisticated text editing system, and several statistical analysis packages. CMS users can also submit batch jobs to the OS/MVS system.

Two two-hour sessions, held in the Science Library (ACS General Access Lab ISB 110):

- **Monday, June 14: 3-5 p.m.**
Instructor: James Yarbrough
- **Monday, July 19: 3-5 p.m.**
Instructor: Philip Baczewski

2. **Introduction to IBM MVS Job Control Language (JCL)** — This course provides an overview of IBM JCL for users who wish to further their knowledge in this area. It is useful to individuals who plan to run MVS batch jobs (e.g. SAS, SPSS-X) on the HDS IBM-compatible mainframe computer.

A two-hour session held in the Academic Computing Conference Room (ISB 134B):

- **Wednesday, June 16: 3-5 p.m.**
Instructor: George Morrow

3. **Introduction to VAX/VMS** — VMS is the interactive operating system used on the Digital Equipment Corporation (DEC) VAX. The VAX supports a variety of applications. The topics covered in this course include gaining access to the VAX through the Local Area Network, logging in and out, changing your password, creating files and directories, creating login command files, using the EDT editor, defining logicals and symbols, and electronic mail.

A two-hour session, held in the Chilton General Access Lab (Chilton 255):

- **Wednesday, June 16: 3-5 p.m.**
Instructor: Staff

4. **Introduction to UNIX** — Take the plunge into the wonderful world of UNIX. This course will start with a short discussion on the history and evolution of UNIX covering both the "Berkeley Software Distribution" and "AT&T System V" variants of UNIX. Topics covered will be the basic necessities for using UNIX and use of some of the various utilities available in UNIX.

A two-hour session, held in the Chilton General Access Lab (Chilton 255):

- **Thursday, June 17: 3-5 p.m.**
Instructor: Staff

5. **Introduction to vi** — This course is recommended for individuals who want to learn the standard UNIX editor, vi.

A two-hour session, held in the Chilton General Access Lab (Chilton 255):

- **Monday, June 21: 3-5 p.m.**
Instructor: Staff

STATISTICAL PACKAGE COURSES

1. **Introduction to SAS** — This course is recommended for individuals who plan to incorporate statistical analyses into their research.

The basic concepts of the SAS system are covered in this course.

This course or prior knowledge of SAS is a prerequisite for all other SAS courses.

A two-hour session, held in the Science Library (ACS General Access Lab, ISB 110):

- **Tuesday, June 22: 2-4 p.m.**
Instructor: James Yarbrough

2. **Introduction to SAS on CMS** — This course is recommended for individuals who plan to use SAS on the academic HDS IBM-compatible mainframe. Topics covered include creating SAS programs, reading data into SAS programs, saving SAS datasets on a minidisk, importing/exporting SAS datasets to and from other SAS systems, and preparing and submitting SAS jobs to OS/MVS.

SAS is used interactively in this course. **Prior knowledge of the SAS command language or attendance in the Intro. to SAS course is required.**

A one-hour session will be held in the Science Library (ACS General Access Lab, ISB 110):

- **Thursday, June 24: 3-4 p.m.**
Instructor: James Yarbrough

3. **Introduction to SAS on UNIX** — This course is recommended for individuals who plan to use SAS on the Solbourne minicomputer. Topics covered include creating SAS programs, reading data into SAS programs, saving SAS datasets on a minidisk, importing/exporting SAS datasets to and from other SAS systems, and preparing and submitting SAS jobs to OS/MVS. This class will utilize the SAS menus under the X Window System. **Prior knowledge of the SAS command language or attendance in the Intro. to SAS course is required.**

A one-hour session will be held in the Science Library (ACS General Access Lab, ISB 110):

- **Tuesday, June 29: 4-5 p.m.**
Instructor: Panu Sittiwong

5. **Introduction to SPSS** — This course is recommended for individuals who plan to incorporate statistical analyses into their research and want to use SPSS on the academic HDS IBM-compatible mainframe. It emphasizes using SPSS from the CMS operating system. Topics covered include creating SPSS programs, reading data into SPSS programs, saving SAS datasets on a minidisk, importing/exporting SPSS datasets to and from other SPSS systems, and preparing and submitting SPSS jobs to OS/MVS. SPSS is used interactively in this course.

A three-hour session to be held in the Science Library (ACS General Access Lab, ISB 110):

- **Wednesday, June 23: 1-4 p.m.**
Instructor: Phanit Laosirirat

6. **Introduction to SPSS PC +** — This course covers the basics of using SPSS PC +, Version 4.0.1, for IBM and compatible PCs. Topics covered include using the menu and help interfaces in REVIEW, loading files, selecting variables, and running statistical analyses. Emphasis will be placed on building files for execution interactively. Prior knowledge of the SPSS command lan-

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guage or attendance in the Intro. to SPSS course is required.

A three-hour session, held in the Science Library (ACS General Access Lab, ISB 110):

- **Monday, June 28: 2-5 p.m.**
Instructor: Panu Sittiwong

WIDE AREA NETWORK COURSES

1. **Introduction to Electronic Mail and Discussion Groups on CMS** - This course will cover the basics of using CMS MAIL to send and receive electronic mail to both Internet and BITNET. The use of electronic mailing lists including BITNET LISTSERV will also be discussed. **Prior knowledge of CMS is required.**

A two-hour session, held in the Academic Computing Conference Room (ISB 134B):

- **Wednesday, June 30: 3-5 p.m.**
Instructor: Philip Baczewski

2. **Introduction to Electronic Mail and Discussion Groups on VAX/VMS** - This course will cover the basics of using VAX MAIL to send and receive electronic mail to both the Internet and BITNET. The use of electronic mailing lists including BITNET LISTSERV will be discussed. Using USENET newsgroups via the ANU News program on the VAX will also be explored. **Prior knowledge of VAX/VMS is required.**

A two-hour session, held in the Academic Computing Conference Room (ISB 134B):

- **Wednesday, July 14: 3-5 p.m.**
Instructor: Sumangala Bhattacharya

3. **Introduction to Internet Tools and Techniques** - The Internet is a collection of related computer networks that link almost a million computers throughout the world. This course will cover file transfer, remote login, use of on-line library catalogs at other universities,archie, HYTELNET, Gopher, and many other Internet topics except electronic mail. **Prior knowledge of at least one of the following interactive operating systems is required: VAX/VMS, CMS, UNIX, MS-DOS, MAC.**

A one and one-half-hour session, held in the Computing Center Conference Room (ISB 134B):

- **Wednesday, July 21: 3:30-5 p.m. Instructor: Sumangala Bhattacharya**

MICROCOMPUTER COURSES

1. **Introduction to Macintosh for Students** - This course is recommended for students who want to learn about Apple Macintosh computers.

A two-hour session, held in the Science Library (ACS General Access Lab, ISB 110):

- **Thursday, June 10: 3-5 p.m.**
Instructor: Sean McMains

2. **Introduction to WordPerfect 5.1 for Students** - Students who wish to use a word processing system to produce class papers and projects are encouraged to take this course. **Prior knowledge of basic DOS commands required. Bring one 5 1/4" low density formatted diskette. There is no difference between WP 5.1 and 5.0 at the introductory level. If you are comfortable with 5.0 do not take this class.**

A three-hour session, held in the Science Library (ACS General Access Lab, ISB 110):

- **Thursday, June 17: 9 a.m.-Noon**
Instructor: Sandy Franklin

3. **Introduction to Procomm Plus** - An overview of the Procomm communications package for personal computers or compatibles is presented for people who wish to access host systems from their PCs. Topics covered include setting communications and file transfer parameters, setting up and using Procomm's dialing directory, and connecting to UNT host computers through the local area network.

A one-hour session, held in the Chilton General Access Lab (Chilton 255):

- **Wednesday, June 23: 2-3 p.m.**
Instructor: Eriq Neale

4. **Introduction to DOS for Students** - This course is recommended for students who want to learn about using DOS on IBM PCs and compatibles.

A two-hour session, held in the Chilton General Access Lab (Chilton 255):

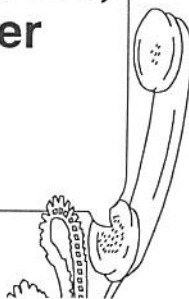
- **Wednesday, June 9: 3-5 p.m.**
Instructor: Eriq Neale

5. **Introduction to Pegasus Mail** - This course is recommended for people, especially faculty and staff, who want to learn about using Pegasus Mail (Pmail) to communicate with others on campus and via the Internet.

Two two-hour sessions, held in the ACS General Access Lab (ISB 110):

- **Thursday, July 1: 2-5 p.m.**
Instructor: Mike Murdock
- **Thursday, July 15: 2-5 p.m.**
Instructor: Mike Murdock ■

Calls For Papers, Conferences, And Other Items of Interest



We have received the following "calls" and announcements from various organizations.

Call for Articles, Papers, Proposals

- **Call for Manuscript Proposals: Computer Networking and Scholarship in the 21st Century University**, a collection of essays — Interested authors are invited to submit a proposal for a contributed essay exploring, in some way, how computer networking and other forms of computer-mediated communication will change research, teaching, publication, and other professional activities in the

General Information

university of tomorrow. A tentative table of contents is divided into three parts: policy, scholarship, and information technology. Sample topics under policy include: Design and evolution of a national network; Access to networking across the disciplines; Credit for networking in the academy; Internationalization of academic disciplines; and Economic and structural inducements to electronic publication. The Scholarship section is divided into three parts: Research Applications across the Disciplines; Teaching and Learning; and Electronic Publication. Sample topics under the Information Technology section include: Librarians as information managers; The electronic library; Cataloging and/or navigating the network; Network information and discovery tools. Submit proposals (3-4 page descriptions of the projected essay), a curriculum vitae, and information about where the author may be contacted from June to August to: Teresa M. Harrison, Dept. of Language, Literature, & Communication, Rensselaer Polytechnic Institute, Troy, NY 12190 (harrison@vm.its.rpi.edu). **Deadline for receipt of the proposals is June 4, 1993.**

- ❑ **IPCT Interpersonal Computing and Technology: An Electronic Journal for the 21st Century is now accepting papers for the September issue.** Full length articles (10-20 pages with notes and bibliography) done in APA format on the following topics will be accepted: use of electronic networks in the classroom, electronic publishing, use of electronic networks and information exchange, library applications of electronic communication, professional relationships carried on via electronic communication, use of electronic communication in higher education, business, industry and government or social science case studies. Book reviews will also be considered. Send all article and review submissions in ascii using a 65 character line to Gerald M. Phillips (gmp3@psuvm.psu.edu).
- ❑ **Images of the Environment: Evolving Perspectives of the Global Commons, November 5&6, 1993, Northern Arizona University** — Papers are being accepted from graduate students and faculty members from all academic disciplines on the following topics areas: global environmental issues; environment and behavior; environment and trade; environmental literature; environmental protection; environmental policy; environmental planning; environmental racism; environmental groups in politics; women and the environment; land conservation; water issues. Abstracts are due **July 16, 1993**. For further information, contact Andy Harper (harper@nauvax.ucc.nau.edu) or Hugh Bartling (bartling@nauvax.ucc.nau.edu), Department of History, Northern Arizona University, Box 6023, Flagstaff, AZ 86011 (602-523-6167).

Grants and Summer Programs

- ❑ **National Endowment for the Humanities (NEH) Interpretive Research Program** — This program offers three categories of support that are designed to promote joint research efforts in humanities disciplines. (1) Collaborative Projects involve two or more scholars undertaking research for periods of more than one year. (2) Humanities, Science and Technology grants support research that brings the knowledge, methods, and perspective of the humanities to bear on the subjects of science, technology and medicine. (3) Conferences unite scholars working on related topics in order to encourage the open exchange of ideas. **Deadlines: Collaborative projects, Humanities, Science and Technology: October 15, 1993, Conferences: July 15, 1993 and January 15, 1994.** Contact The Interpretive Research Program, NEH, Division of Research Programs, Room 318, 1100 Pennsylvania Ave. N.W., Washington, D.C. 20506 (202-606-9210) (neh-rsr@gwuvm.gwu.edu).
- ❑ **Inter-university Consortium for Political and Social Research (ICPSR) Summer Program in Quantitative Methods, Ann Arbor Michigan. Session I: June**

28-July 23, Session II: July 26-August 20 — This program, offered to Consortium member institutions (UNT is a member) is divided into three instructional tracks. Track I consists of: Basic Mathematics, Introduction to Computing, Introduction to Statistics & Data Analysis I. Track II consists of: Mathematics for Social Scientists, Introduction to Statistics & Data Analysis II, Introduction to Regression Analysis, Regression Analysis, Scaling & Dimensional Analysis, Mathematical Models: Game Theory, Mathematical Models: Rational Choice, Nonlinear Systems I: Model Specification, Nonlinear Systems II: Chaos, Catastrophes, Visualization, Advanced Analysis of Variance. Track III courses include: Multivariate Statistical Methods, Structural Equation (Causal) Models, Categorical Data Analysis, "LISREL" Models: General Structural Equations, "LISREL" Models: An Introduction, "LISREL" Models: Intermediate Topics, Time Series Analysis, Logit & Log-linear Models, Network Analysis, Item Response Theory, Dynamic & Longitudinal Analysis, Maximum Likelihood Estimation, Advanced Topics in Social Research. Additional courses and workshops are offered in the following areas: Quantitative Analysis of Crime & Criminal Justice, Quantitative Historical Analysis, Latino Research Issues, Quantitative Analysis on Latin America, Management of Machine-Readable Social Science Information, Utilization of Data Resources from the 1990 Census, National Long-Term Care Surveys, Criminal Justice Methodology & Analysis: Recidivism Data. **Stipends are available for some courses/workshops.** For more information, contact Panu Sittiwong (panu@unt.edu) in the Computing Center at 565-2140, Valerie Martinez-ebers in Political Science at 565-2276, or ICPSR, P.O. Box 1248, Ann Arbor, MI 48106-1248 (313) 764-8392. ■

Mimas is Here!

By Eriq Neale, ACS General Access Lab Manager (neale@unt.edu)

The ACS General Access Lab is proud to announce the availability of Mimas, a collection of Macintosh information and utility files. Mimas consists of two file areas. One is the Arizona Macintosh User's Group CD "BBS-In-A-Box Vol. VI." This CD contains 1.4 gigabytes of programs, graphics, fonts, and utilities for the Macintosh, stored in compressed format. The other area is called "Best of Macintosh," which has a small assortment of excellent programs that have been released since the CD-ROM was published. All of the programs in the "Best of Macintosh" area are stored as self-extracting archives to make the best use of the limited disk space available.

There are three ways to get to the files of Mimas.

- ① Macintoshes connected to the campus Ethernet can access Mimas via Appletalk
 - ☐ .Open the Chooser and select the ISB ACS zone under the AppleShare icon.
 - ☐ Choose Mimas from the list of file servers and click the "OK" button.
 - ☐ A dialog box will appear asking you to log into the server. Simply click on "Guest" and click "OK."
 - ☐ A list of volumes will appear.
 - ☐ Shift-click to select the ones you want to access and again click "OK."
 - ☐ The volumes will now appear on your desktop and you are ready to go.
 - ☐ As we can only support ten connections via Appletalk, please dismount the volumes (put them in the Trash) when you are finished. Also, please do not set the volumes to automount on startup.
- ② Anyone with ftp access can get to these files through the ftp server. Simply ftp to mimas.acs.unt.edu and log in as "anonymous" using your E-mail address as your password.
- ③ You can also connect to Mimas via Gopher. Set your Gopher client to point to mimas.acs.unt.edu port 70.

There are several additional informational files about the Mimas server in the "About Mimas" folder. Please read these files to get up-to-date information about Mimas.

If you have any comments or questions about the system, send E-mail to Eriq Neale at neale@unt.edu, or compose a text file and drop it in the folder named "Suggestion Box" on the "Best of Macintosh" volume. ■

Check Your Environmental IQ

By Claudia Lynch, Benchmarks Editor (as04@unt.edu)

If you've been wondering what your environmental impact quotient (IQ) is, you can now buy some software for your PC and find out. For just \$29.95 (this includes tax and shipping) you can find out if you're an Eco-Titan or an Eco-Tyrannosaurus, or maybe you're something in-between! To order, call 1-800-688-9006. Or send your money to: Environmental Impact Software, 605 Sunset Ct., Davis, CA 95616. Institutional Purchase Order's are also accepted. ■

"Paperless" Journal Available

By Claudia Lynch, Benchmarks Editor (as04@unt.edu)

A "paperless" journal, *The GreenDisk Paperless Environmental Journal*, is now available for a subscription fee of \$35/year. According to a press release, *The GreenDisk Paperless Environmental Journal* provides subscribers with an inexpensive and comprehensive resource documenting the work that is going on within the environmental community. For more information, contact The GreenDisk, P.O. Box 32224, Washington, DC 20007 (Phone: 202-337-4175, Internet: greendisk@igc.apc.org). ■

Vanishing Species: Free HyperCard Stack!

By Claudia Lynch, Benchmarks Editor (as04@unt.edu)

The University of Texas at Austin has announced the availability of *Vanishing Species of Texas*, a free HyperCard application that requires an Apple Macintosh with at least 1 MB of RAM (2MB or greater suggested), 7 MB of hard disk space. It was developed under System 6 and HyperCard Version 1.2.2/1.2.5. A new version running more smoothly on Macs with System 7 and HyperCard 2.0/2.1 will soon be available.

For a copy of *Vanishing Species of Texas* (Macintosh computers only), send three, blank, double-density, 3.5" floppy disks and a return self-addressed stamped disk mailer to: Project QUEST, COM 1, University of Texas, Austin, TX 78712-1110 ■

Apple & Novell to Port Mac Environment to Intel Platform

By Mark Thacker, CCI LAN Manager
(thacker@unt.edu)

Apple and Novell are definitely attempting to win the Windows-NT market before it even exists! Several sources are now saying that Apple and Novell will team together to produce a version of the Macintosh operating environment (not operating system) to Intel 386/486/Pentium machines. They expect to ship by early next year.

Apple's push behind the plan is their goal to establish a multiplatform operating environment called "Companion." Companion would be similar to Microsoft Windows-NT in that it will support a standard look-and-feel across multiple hardware platforms. It is also similar in that a user can not take a program compiled for one hardware platform and run it directly on another platform. For Windows-NT, developers will need to *recompile*, or regenerate the program on the new platform. For Companion, the developer may actually need to recode some portions of the program.

The compilers already exist for writing software for the new environment. Metaware Inc.'s High C/C++ 386 compiler/debugger and Phar Lap Software Inc.'s 386Link will be used. Documentation is expected this summer. Additional details on how to write programs to be portable across multiple Macintosh environments and platforms is expected to be released at the Apple Worldwide Developer's Conference next month.

Apple and Novell expect to ship a multitasking environment that runs both existing character-based DOS programs and ported versions of Mac ap-

plications. It will provide a Finder interface for selecting files and programs, a QuickDraw emulator for doing Macintosh graphics, support for QuickDraw GX for object oriented graphics and text, translation tools to handle the Macintosh Hierarchical File System on top of Novell's DR-DOS, and built-in support for Novell and AppleTalk networks. The software will allow for additional features, such as QuickTime, AppleScript, and Apple Open Collaboration Environment to be added in the future.

Overall, Apple is planning on making Companion available on Newton Personal Digital Assistants, Intel based machines and even RISC-based PowerPC machines. Apple's other big push is for the PowerPC architecture which they are developing along with Motorola and IBM. When PowerPC arrives at the end of this year, users will be able to run Macintosh, Windows, and DOS programs concurrently, without modification on the same machine at speeds greater than the fastest current Macintosh or IBM-PC computers. So, why bother porting only the Mac environment to Intel platforms? Because of market share.

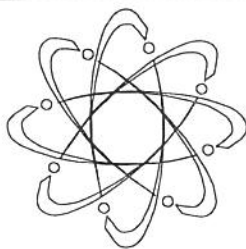
Intel machines are a dime a dozen and Microsoft runs an operating system and possibly a Graphical User Interface on most of them. Novell and Apple, and yes, even IBM, would like to do anything they can to get their environment on those platforms and prevent Windows-NT from being the runaway success that Microsoft promises it will be.

We here at UNT should watch these events closely. The coming of the PowerPC is big news, but the porting, and the official support from Novell for the Mac environment on Intel platforms looks very promising.

Sources:

"Novell, Apple team up to launch Mac system into DOS universe," Mitch Ratcliffe, *MacWEEK*, April 26, 1993, (Vol. 7, No. 17, Pg. 1).

"Apple companion to propel coveted Macintosh features into the mainstream," Amy Cortese, *PCWEEK*, April 26, 1993, (Vol. 10, No. 16, Pg. 1). ■



UNT Network Manager and Support Staff Group Minutes

Officers: Cathy Cobb, Personnel (President); Mark Thacker, CCI LAN Manager (Vice President); David Lively, Foreign Languages (Secretary); Eriq O. Neale, Academic Computing (Newsletter Editor); Rory Rivoire, College of Education (Executive Committee member).

Minutes provided by David Lively

April 7, 1993

Cathy Cobb announced that a NetWare Users conference will take place in Austin May 3-5, during which time plans are to be made for the summer regional conference. Cathy and Eriq Neale will be attending the conference and

representing the UNTNUI chapter. Also, information about Comnet and applications for admission passes are available.

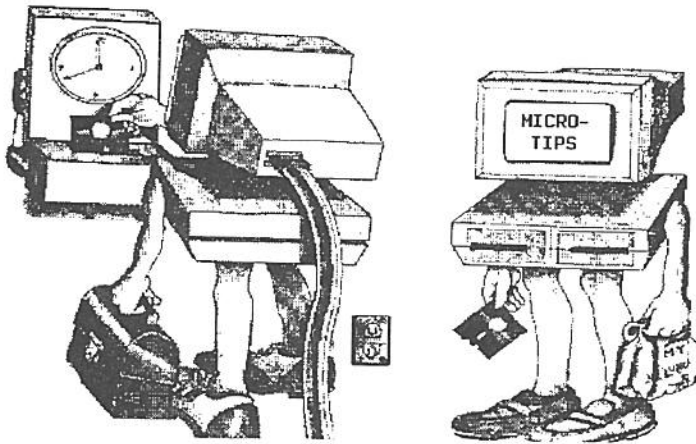
Mark Thacker spoke about the Server Description Survey subcommittee, and asked that surveys be returned by the May NM&SSG meeting. The first page of the survey is a telephone list which will be distributed to all network managers. Another list including a backup contact list will be provided to Network Support. Persons wishing to be considered as backup managers for other networks should first obtain the approval of their supervisors. A complete set of the surveys will be kept in a secure location by the NM&SSG president.

Patrick South gave a brief overview of the Brainshare '93 conference, which he and Mike Murdock attended. He outlined some of the changes that NetWare 4.0 will bring about, and said that a version of the package is currently on campus for testing purposes.

Cathy Cobb mentioned that a team will be formed by Bill Buntain and the NM&SSG Executive Committee for assisting in the transition to NetWare 4.0. She also distributed a handout, "Steps for Building a Network Backup Plan," containing short, practical suggestions for establishing a rotation schedule, storing backup tapes, and maintaining hardware.

Russell Smith gave a presentation on an 8-gigabyte DAT drive now on the supported items list, the HP 35480. The unit, which uses 90MB tapes and a SCSI interface, is presently available from several vendors for approximately \$1300. The Microcomputer Maintenance Shop can furnish interested parties with a vendor list.

Rick Kingsley of Hewlett-Packard then gave a demonstration of Network Advisor, a tool for network management. The College of Business Administration planned to keep the Network Advisor technology for a trial period of one week. ■



*This column is intended to serve as a forum for sharing useful tips on making more productive use of microcomputers. If you have a tip that you feel may be of use to campus users, submit it to the **Benchmarks** Editor for possible inclusion in a future issue.*

Natural Connection Application Program Interface

By Abraham John, LAN Manager for the Student Affairs Office

In situations where data used in a PC based system resides on the mainframe, the normal approach is to perform a download of the data in bulk. There are a couple of major flaws with this approach. The first and most important one is disk space. There has to be adequate storage space on the destination hard disk whether it be a local

or network drive. The second problem and perhaps equally important is time-liness. In today's high speed world, data changes very quickly and information systems that cannot keep up have to be discarded. In other words, regardless of the sophistication of data processing algorithms/user interfaces, obsolete data will reflect badly on the system. This article is aimed at taking steps towards distributing the data in a timely and efficient fashion and towards making effective use of the computing power on the user's desktop.

With the explosion of PCs capable of extremely fast processing, it makes sense, in the modern data processing environment, to off-load some of the processing from the mainframe to the PC. The software that can aid us in the move in this direction is Natural and Natural Connection (NC). This article will introduce you to the use of this software combination. To process data in this manner, it is necessary to employ the Application Program Interface (API) calls that are part of Natural Connection. All the code stubs in this article are in C. I will cover the basics of making API calls and then illustrate a case where this mechanism is used to make mainframe data access fast, easy and painless.

Using the NC APIs

Using the NC APIs is relatively easy and refreshingly straightforward. All the codes that are used in the examples and all the codes that you will need for your programs are defined in SAGAPI.H file and you can save yourself a lot of typing if you include this file into your programs. There are three categories of API calls:

- ① Natural Connection command calls.
- ② File transfer command calls.
- ③ Screen data interrogation command calls.

Natural Connection Command Calls

```
api.cmd      = API_CMD;
api.input    = "TYPE '*SIMS' CR";
rc           = nc (api, (APICB far *) &api);
if (rc != API_SUCCESS)
    some_error_function ();
```

This example shows how a transaction can be invoked on the mainframe. When the function nc() is called it always returns an error code. This error code can be interrogated to determine whether the command was successful. This particular class of calls is used to execute Natural Connection commands. Page 7-93 of the Natural Connection manual lists all the commands that can be used with this class of calls.

File Transfer Command Calls

```
api.cmd      = API_CMD;
api.input    = "TYPE '0123456789' CR";
rc           = nc (api, (APICB far *) &api);
if (rc != API_FILEXFER)
    some_error_function ();
else
{
    while (rc != API_END_OF_FILE && rc != API_ESCAPE)
    {
        api.cmd = API_GET_RCD;
        rc = nc(API, (APICB far *) &api);
        some_process_data_function ();
    }
}
```

This examples makes a few assumptions.

- For a file/record transfer there should be a natural program on the mainframe side that will have to initiate the transfer. In this example it is assumed that the natural program expects the person's SSN and it then starts a transfer of all the data associated with that SSN.
- In the loop it constantly checks for an EOF code or if the user pressed the ESCAPE key.
- Within the loop the api.cmd is changed to API_GET_RCD.
- After every get, the file transfer information in the API structure is filled. Please note that when using API calls, the only types of transfers allowed are ASCII and Binary.
- The fields of primary importance are API.LEN and API.RECORD. API.LEN will provide the length of the string and API.RECORD points to the beginning of the data that was passed down.
- API.RECORD is terminated by an End of String (EOS) character. The API.RECORD variable can be broken down into individual elements and stored or the information can be processed and the results can be stored.
- The point is that now that the data is available, it can be used in any way required by the application.
- The commands that can be used with the file transfer class are: API_GET_RCD, API_PUT_RCD, API_ABORT, and API_EOF.

Please see MICROTIP on page 23.



Virus Update

Compiled by Claudia Lynch, *Benchmarks*
Editor (as04@unt.edu)

The following information, except when noted, comes from the VIRUS-L Digest.

General

- A FAQ (Frequently Asked Questions) document and all of the back issues of *VIRUS-L Digest* are available via Anonymous FTP on cert.org (192.88.209.5).
- EDUPAGE (4/22/93), "a summary of some of the week's news items on information technology, provided as a service by EDUCOM," reports on a new, free, computer security electronic journal (e-journal). The journal is called *Chaos Digest*, and it covers various computer security issues such as fraud, hacking, legislation, etc. To subscribe, send a message to linux-activists-request@niksula.hut.fi with a mail header or first line containing the following:

X-Mn-Admin: join CHOAS_DIGEST

IBM and Compatible PCs

- Independent reviews of PC antiviral products are available via Anonymous FTP on cert.org (192.88.209.5) in the directory pub/virus-l/docs/reviews.

Apple Macintosh

- Two new Macintosh viruses have been discovered. One is called INIT-17, and it spreads to the System file and many applications as they run. The virus will display an

Please see VIRUS on page 23.

MICROTIP continued from page 22.

Screen Interrogation Commands

```
api.cmd      = API_IF;
api.input    = "Enter Input";
api.start    = 0;
api.cols     = 1999;
api.op       = API_EQ;
rc           = nc(api, (APICB far *) &api);
if (rc != API_TRUE)
    some_screen_error_function ();
else
    some_screen_process_function ();
```

In this example the screen pointer is being interrogated for the 'Enter Input' string. The search string is case sensitive and it must be null terminated. API.CMD is API_IF, and API.INPUT contains the string being searched for. API.START sets the starting position (0-1999) and API.COLS sets the ending position (0-1999). API.OP sets up the type of search. The return code can be compared to API_TRUE to determine if the search was successful. If you plan to use screen interrogation commands, there are other error codes that indicate errors in the setting up of the search parameters. One extremely useful task of screen interrogations is in situations where a person has to view many screens looking for particular data elements and making decisions based on their value. This can be automated quite easily by using screen interrogation commands.

API_IF is the only command that can be used with this class and it is important to note that the screen pointer always has the current screen.

Conclusion

Natural Connection comes with the stub and the header file (SAGAPI.H) that is required for programs to make use of the API. The stub is composed of two C functions and one assembly language subroutine. I used Microsoft C 5.1 for the C component and Microsoft Macro Assembler for the assembly language portion.

As you can see, fairly sophisticated tasks can be achieved by just using simple API commands. When all the command classes are combined in programs that make use of NC APIs many of the routine tasks can be automated.

The case in which Mahshid Grooms (in the Computing Center) and I had to make use of the NC APIs was when the Student Employment Service requested a sign-in sheet system. This program needed the capability to check for a student's enrollment, get College Work Study (CWS) award information, and some basic demographic data elements. It also had to operate with extremely low human intervention. The program as it stands right now accepts a student's SSN and it passes the SSN and the current term to a mainframe natural program. The natural program locates the student and passes the data back to the PC program. If the student is not found or if the student does not meet the enrollment criteria it passes error codes to the PC program. The PC program takes the data that is passed and isolates the data elements. It stores it in a DBF file so that programs running at counselor stations can act upon the information. If error codes are returned to the PC application, it displays informative messages to the student about the nature of the error.

The greatest advantage of this approach is that it is not necessary to store 27,000+ student records on the PC hard disk, and the data is timely. This timeliness of the data is extremely important with regards to CWS awards, where award status/amount can change during the day/night. With the enrollment check it is not necessary for a counselor to go to a SIMS screen to determine if the student is eligible for referral. Furthermore, since mainframe data is the most accurate source on campus, it makes extremely good sense to reseed the PC database from the mainframe every time a student needs to use the employment service. Furthermore, the automated gathering of sign-in information makes service-usage reporting remarkably easy and flexible.

This article has touched on the basics of NC APIs. The question of where and how this technology can be utilized to serve PC-based departmental systems is left to the departmental staff. ■

VIRUS continued from page 22.

alert message in a window entitled "From the depths of Cyberspace" the first time an infected machine is rebooted after 6:06:06 p.m., Oct. 31, 1993. All major Macintosh anti-virus tools are being updated to locate and/or eliminate this virus.

INIT-M was recently discovered at Dartmouth College. This is a different virus than INIT-17 and is very malicious. It spreads very rapidly under System 7 but does not spread or activate on System 6 systems. Among other things, the virus does extensive damage to systems running on any Friday the 13th, *not those just booted on those days*. All major Macintosh anti-virus tools are being updated to locate and/or eliminate this virus. ■

VAXCLUSTER USAGE STATISTICS

January Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. GAUSSIAN	Molecular Modelling	12 19:28:07.56	62.5
2. User programs	Compiled Programs	1 17:46:58.29	8.5
3. NEWS	ANU News Utility	1 13:44:08.58	7.7
4. MAIL_SERVER	VMS Mail Server	0 11:29:09.11	2.3
5. DKDFG	Disk Optimizer	0 10:27:46.27	2.1
6. BACKUP	Disk Backups	0 08:47:28.49	1.8
7. MAIL	VMS Mail Utility	0 07:34:09.17	1.5
8. LOGINOUT	User Login	0 07:05:54.07	1.4
9. LISP	Lisp Interpreter	0 06:36:18.76	1.3
10. DINK	MUD Client	0 06:17:32.18	1.3
Total		20 11:37:27.00	

February Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. GAUSSIAN	Molecular Modelling	13 01:42:27.27	54.9
2. User programs	Compiled Programs	2 21:57:37.58	12.2
3. NEWS	ANU News Utility	1 21:24:56.43	8.0
4. DKDFG	Disk Optimizer	1 03:34:03.38	4.8
5. MAIL_SERVER	VMS Mail Server	0 14:36:33.91	2.6
6. LOGINOUT	User Login	0 09:37:28.37	1.7
7. DINK	MUD Client	0 09:21:11.50	1.6
8. MAIL	VMS Mail Utility	0 09:13:31.45	1.6
9. BACKUP	Disk Backups	0 08:26:13.60	1.5
10. BN_GATEWAY	BITNET Mail Gateway	0 06:37:41.52	1.2
Total		23 19:11:41.67	

March Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. GAUSSIAN	Molecular Modelling	4 16:34:14.80	37.4
2. NEWS	ANU News Utility	1 18:08:45.85	14.0
3. User programs	Compiled Programs	1 04:39:05.54	9.5
4. DKDFG	Disk Optimizer	0 17:03:09.51	5.7
5. MAIL_SERVER	VMS Mail Server	0 12:22:27.55	4.1
6. ACC	Accounting Utility	0 11:36:25.73	3.9
7. MAIL	VMS Mail Utility	0 07:36:10.46	2.5
8. BACKUP	Disk Backups	0 06:55:34.78	2.3
9. LOGINOUT	User Login	0 06:49:18.12	2.3
10. SMTP	Mail Transport	0 06:11:28.20	2.1
Total		12 13:06:41.32	

VAX/UNIX NEWS

VAX

- ❑ **New Unsupported Messaging Facility** — A new message-sending program has been installed on the VAX. This program is used to send messages to the Solbourne (and possibly Ponder at a later date). It is an unsupported utility, meaning that if you have trouble, you may contact kenc@vaxb.acs.unt.edu, or kenc@sol.acs.unt.edu. Please **do not** contact the operator or mstgil if there's a problem. To use "msgclnt", you must set up a symbol:

```
$ msgclnt==$sys$public:msgclnt
```

(You can add this line to your login.com file, and it'll be there when you log in.)

If you need someone to do this for you, contact kenc@sol.acs.unt.edu or kenc@vaxb.acs.unt.edu.

Once it's installed for you, the syntax is:

```
msgclnt kenc@vaxb.acs.unt.edu
"Hey there, dude."
```

```
msgclnt kenc@ponder.csci.unt.edu
"Good morning"
```

```
msgclnt kenc@sol.acs.unt.edu
"This is a test"
```

If you simply say "msgclnt kenc@vaxb.acs.unt.edu", then you'll need to press <CTRL-Z> to end the input, and actually send the message.

If you want to use this program on other sites, contact kenc.

- ❑ **Calendar of Events in Gopher** — If you look in Gopher, you will now find a UNT Calendar of Events. Currently, the Computing Center is

April Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. GAUSSIAN	Molecular Modelling	5 04:37:30.44	33.8
2. NEWS	ANU News Utility	2 06:11:20.00	14.7
3. User programs	Compiled Programs	1 20:55:50.28	12.2
4. LISP	Lisp Interpreter	0 16:38:24.42	4.5
5. MAIL_SERVER	VMS Mail Server	0 14:50:56.91	4.0
6. BACKUP	Disk Backups	0 12:09:48.57	3.3
7. MOPAC	Quantum Mechanics	0 12:07:05.48	3.3
8. MAIL	VMS Mail Utility	0 09:05:56.25	2.7
9. LOGINOUT	User Login	0 07:59:11.60	2.2
10. DINK	MUD Client	0 07:36:41.70	2.1
Total		15 08:39:34.64	

SOLBOURNE USAGE STATISTICS

January Top Ten Programs: CPU Time Used

Program	Description	CPU Minutes	Percent of Total
1. g90	Gaussian 90 - Chemistry	68181.0	44.5
2. UserPgm	User Programs	55953.8	36.5
3. sas	Statistical Package	18480.1	12.1
4. compress	UNIX compress Utility	2205.9	1.4
5. find	File Locator Utility	706.6	0.5
6. update	Filesystem sync	666.2	0.4
7. ired	Internet Relay Chat Daemon	289.1	0.2
8. perl	Perl Language Interpreter	284.1	0.2
9. as	User Program	188.9	0.1
10. xv	Picture Viewer	160.8	0.1
Total		149949.1	

February Top Ten Programs: CPU Time Used

Program	Description	CPU Minutes	Percent of Total
1. UserPgm	User Programs	47454.0	38.7
2. sas	Statistical Package	34184.9	27.8
3. g90	Gaussian 90	32897.3	26.8
4. compress	UNIX compress Utility	2629.0	2.1
5. find	File Locator Utility	592.6	0.5
6. ired	Internet Relay Chat Daemon	379.0	0.3
7. m3	Modula-3 Compiler	360.4	0.3
8. xterm	X terminal	277.6	0.2
9. gopherd	Gopher Information Server	218.7	0.2
10. irc	Internet Relay Chat	218.1	0.2
Total		122715.5	

posting all of the events in there, but starting soon, we will be looking for outside information providers. If you have on-campus events you would like to post, send mail to gopher@unt.edu. In the future, all of these events will be crossposted to the unt.events.newsgroup.

- ❑ **HYTELNET Upgraded to 6.4** — HYTELNET 6.4 is now available. It contains more information, as usual.

SOLBOURNE

- ❑ **New Unsupported Messaging Facility** — A new message-sending program has been installed on the Solbourne in the unsupported directory. This program is used to send messages to the VAX (and possibly Ponder at a later date). It is an unsupported utility, meaning that if you have trouble, you may contact kenc@vaxb.acs.unt.edu, or kenc@sol.acs.unt.edu. To use "msgclnt", you must have `/usr/local/unbin` in your path statement. If you need someone to do this for you, contact kenc@sol.acs.unt.edu or kenc@vaxb.acs.unt.edu.

Once it's installed for you, the syntax is:

```
msgclnt kenc@vaxb.acs.unt.edu
"Hey there, dude."
```

```
msgclnt kenc@ponder.csci.unt.edu
"Good morning"
```

If you simply say "msgclnt kenc@vaxb.acs.unt.edu", then you'll need to press <CTRL-D> to end the input, and actually send the message. If you want to use this program on other sites, contact kenc.

- ❑ **Elm "hanging bug" work-around** — We are currently looking for the solution to a problem with elm (the mail program) hanging while in the middle of an E-mail session. If this happens to you, after you are sure

March Top Ten Programs: CPU Time Used

Program	Description	CPU Minutes	Percent of Total
1. g90	Gaussian 90 - Chemistry	72126.5	51.4
2. UserPgm	User Programs	57937.9	41.3
3. compress	UNIX compress Utility	1998.2	1.4
4. update	Filesystem sync	1932.5	1.4
5. find	File Locator Utility	884.8	0.6
6. sas	Statistical Package	830.1	0.6
7. ired	Internet Relay Chat Daemon	372.4	0.3
8. m3	Modula-3 Compiler	223.8	0.2
9. topherd	Gopher Information Server	211.7	0.2
10. xterm	X Terminal	200.7	0.1
Total		136718.6	

April Top Ten Programs: CPU Time Used

Program	Description	CPU Minutes	Percent of Total
1. g90	Gaussian 90 - Chemistry	47032.9	41.6
2. UserPgm	User Programs	40641.7	35.9
3. update	Filesystem sync	12050.3	10.7
4. sas	Statistical Package	3508.4	3.1
5. perl	Perl Language Interpreter	2469.5	2.2
6. compress	UNIX compress Utility	1790.3	1.6
7. ired	Internet Relay Chat Daemon	694.1	0.6
8. find	File Locator Utility	666.4	0.6
10. irc	Internet Relay Chat	314.4	0.3
Total		11307.6	

elm is hung (give it at least one minute to wake up), press <CTRL-Z> to temporarily suspend elm and get back to your csh prompt. Then type the command `ps` which will look something like this:

```
sol /home/sol/user % ps
PID TT STAT TIME COMMAND
14379 p0 S 0:00 -csh (csh)
14748 p0 T 0:01 elm
14773 p0 R 0:00 ps
14395 p3 I 0:00 -csh (csh)
sol /home/sol/user %
```

and not the PID number associated with the elm command (14748 in this case). Then type the command `kill -ALRM PID` (kill -ALRM 14748 in this case). NOTE: The kill command should not generate any output, just give you a new prompt. Elm should be ready to go now, so just type `fg` to get back into elm, and you'll probably need to press <ctrl-L> to get elm to redisplay it's screen.

We are hard at work looking for a solution to this problem, but until we find one, this is the only method that works. If you have any problems following the above instructions, please call 565-4161 for assistance.

- **Swm, etc., no longer available** — Due to processor upgrades, OS upgrade, and Solbourne no longer supporting their X11R4 extensions, the programs swm, sappt, sdir, snws, ... are no longer available. Solbourne stopped shipping/sup-

porting these utilities with X11R5, but we were still able to use them under the old OS. With the new OS, insurmountable problems were encountered that left us with little choice but to drop support for these utilities as well. People needing help reconfiguring their X Window files should contact the Computing Center at ext. 2324 or send E-Mail to operator@sol.acs.unt.edu.

- **Calendar of Events in Gopher** — If you look in Gopher, you will now find a UNT Calendar of Events. Currently, the Computing Center is posting all of the events in there, but starting soon, we will be looking for outside information providers. If you have on-campus events you would like to post, send mail to gopher@unt.edu. In the future, all of these events will be crossposted to the unt.events newsgroup.

- **Elm 2.4.pl21 was installed 2-19-93** — Elm 2.4.pl21 is now available. This version of elm supports MIME mail, lets you use 'ispell' to spell-check your mail before sending, and has an enhanced alias system, as well as many bug fixes. A sample elmrc is in `/home/proto/dot.elmrc`, and can be copied by typing:

```
mv ~/elm/elmrc ~/elm/elmrc.old
cp /home/proto/dot.elmrc ~/elm/elmrc
```

However, it's not necessary to update your elmrc. For more information on the new version of elm, type 'man elm'. You must, however, use 'newalias' once to update any elm aliases you have.

- **The new version (1.0.8) of the Joe Editor** — This new version is now available in `/usr/local/unbin/joe`. If you'd like to use it on a regular basis, send mail to the operator asking that `/usr/local/unbin` be added to your path.
- **Using the PICO editor with elm** — If you want to continue using elm, but would like to use PINE's text editor, PICO, go into the 'o' (options) menu in elm. Then set the editor command to be:

VAX/UNIX SYSTEMS

"/usr/local/bin/pico -t". Then hit "" to save the setup.

- ❑ **PINE Mail Reader installed** — PINE has been installed on Sol and is available for general use. This mail reading package is somewhat easier for first time E-Mail users to understand and also has several nice features that elm lacks.

Elm will remain in use on Sol and will also continue to be supported. You simply need to type **elm** instead of **mail** to bring it up or set up a personal alias that overrides the system alias for the 'mail' command.

- ❑ **lastcomm available w/privacy restrictions** — The command lastcomm has been altered so that users may gather data about their usage on Sol. It will not allow one user to gather information on what commands another user has entered.

- ❑ **New policy on large memory processes** — The following types of processes are considered large memory:

All processes that have a SIZE of = 10000 or a %MEM = 2.0 in a 'ps -vx' output.

NOTE: the above is an update to the policy put into effect on 11-9-92.

If you do not run any of these types of processes, you may safely ignore the rest of this message.

All users are limited to 1 large memory job at a time. The operators are authorized to stop or kill, at their discretion, any additional jobs.

Exceptions to this policy must be obtained at least 24 hours in advance and are only available through the Computing Center office during regular office hours.

See Also: 3-11-92 Updated policy on CPU-intensive processes

- ❑ **HYTELNET 6.4** — HYTELNET 6.4 has been installed. It contains many additions and corrections over 6.3. ■

Mainframe Performance Statistics

October Top Ten MVS Programs : Frequency Of Runs

Program	Description	# of Runs	% of Total
1. IEBGENER	IBM Utility	11046	19.7
2. IEWL	Linkage Editor	8528	15.2
3. PGM=*.DD	Compiled Program	8262	14.8
4. SPCHLCOB	COBOL2 Report Writer	5046	9.0
5. IDCAMS	VSAM Utility	4648	8.3
6. IGYCRCTL	VS COBOL2 Compiler	4045	7.2
7. IEFBR14	IBM Null Utility	2803	5.0
8. SAS370	SAS Version 6.06	1840	3.3
9. SASLPA	SAS Version 5.18	1447	2.6
10. SPSS	SPSS Version 4.0	1438	2.6

October Top Ten MVS Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. SASLPA	SAS Version 5.18	303697	61.8
2. SAS370	SAS Version 6.06	66923	13.6
3. PGM=*.DD	Compiled Program	40598	8.3
4. SPCHLCOB	COBOL2 Report Writer	20858	4.2
5. SPSS	SPSS Version 4.0	19463	4.0
6. SSS4001	Operations Automation	7344	1.5
7. COMPLET4	Academic COM-PLETE	7267	1.5
8. IGYCRCTL	VS COBOL2 Compiler	5299	1.1
9. IEWL	Linkage Editor	3917	0.8
10. IEBGENER	IBM Utility	2628	0.5

November Top Ten MVS Programs : Frequency Of Runs

Program	Description	# of Runs	% of Total
1. IEWL	Linkage Editor	18201	17.4
2. PGM=*.DD	Compiled Program	18045	17.3
3. IEBGENER	IBM Utility	12429	11.9
4. IGYCRCTL	VS COBOL2 Compiler	10854	10.4
5. IEBTPCH	IBM List Utility	10721	10.3
6. SPCHLCOB	COBOL2 Report Writer	9380	9.0
7. IEFBR14	IBM Null Utility	7354	7.0
8. IDCAMS	VSAM Utility	4823	4.6
9. CASMA001	Sort Utility	3871	3.7
10. SPSS	SPSS Version 4.0	1776	1.7

November Top Ten MVS Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. PGM=*.DD	Compiled Program	104678	36.1
2. SAS370	SAS Version 6.06	48971	16.9
3. SPCHLCOB	COBOL2 Report Writer	35516	12.3
4. SPSS	SPSS Version 4.0	31405	10.8
5. SASLPA	SAS Version 5.18	19190	6.6
6. IGYCRCTL	VS COBOL2 Compiler	13226	4.6
7. COMPLET4	Academic COM-PLETE	9752	3.4
8. IEWL	Linkage Editor	7251	2.5
9. SSS4001	Operations Automation	4485	1.5
10. IEBGENER	IBM Utility	2854	1.0

MAINFRAME TECHNICAL SERVICES

December Top Ten MVS Programs : Frequency Of Runs

Program	Description	# of Runs	% of Total
1. PGM=*.DD	Compiled Program	17804	18.8
2. IEWL	Linkage Editor	16933	17.6
3. IDCAMS	VSAM Utility	15487	16.1
4. IGYCRCTL	VS COBOL2 Compiler	14684	15.3
5. IEBPTPCH	IBM List Utility	12360	12.9
6. SPCHLCOB	COBOL2 Report Writer	4382	4.6
7. IEFBR14	IBM Null Utility	4187	4.4
8. IEBGENER	IBM Utility	2223	2.3
9. CASMA001	Sort Utility	1758	1.8
10. REPORT	REPORT	1336	1.4

December Top Ten MVS Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. SAS370	SAS Version 6.06	16309	14.1
2. IGYCRCTL	VS COBOL2 Compiler	16208	14.0
3. SPSS	SPSS Version 4.0	15988	13.8
4. SPCHLCOB	COBOL2 Report Writer	14224	12.3
5. PGM=*.DD	Compiled Program	11408	9.9
6. SSS4001	Operations Automation	8236	7.1
7. COMPLET4	Academic COM-LETE	7031	6.1
8. IEWL	Linkage Editor	5245	4.5
9. IDCAMS	VSAM Utility	5212	4.5
10. SASLPA	SAS Version 5.18	303697	61.8

January Top Ten MVS Programs : Frequency Of Runs

Program	Description	# of Runs	% of Total
1. IEBGENER	IBM Utility	3381	20.7
2. IEWL	Linkage Editor	1961	12.0
3. PGM=*.DD	Compiled Program	1946	11.9
4. IDCAMS	VSAM Utility	1468	9.0
5. IKJEFT01	Password Change	1381	8.5
6. SPCHLCOB	COBOL2 Report Writer	782	4.8
7. SASLPA	SAS Version 5.18	732	4.5
8. SAS370	SAS Version 6.06	598	3.7
9. IGYCRCTL	VS COBOL2 Compiler	573	3.5
10. SPSS	SPSS Version 4.0	541	3.3

January Top Ten MVS Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. PGM=*.DD	Compiled Program	30494	13.1
2. SAS370	SAS Version 6.06	27440	28.0
3. SASLPA	SAS Version 5.18	8260	8.4
4. COMPLET4	Academic COM-LETE	6831	7.0
5. SPSS	SPSS Version 4.0	5880	6.0
6. SPCHLCOB	COBOL2 Report Writer	4640	4.7
7. SSS4001	Operations Automation	2550	2.6
8. FATS	FATS	1815	1.9
9. IEBGENER	IBM Utility	1386	1.4
10. ISTINM01	VTAM Utility	1336	1.4

February Top Ten MVS Programs : Frequency Of Runs

Program	Description	# of Runs	% of Total
1. PGM=*.DD	Compiled Program	9923	18.7
2. IEWL	Linkage Editor	9899	18.6
3. IEBGENER	IBM Utility	9140	17.2
4. IGYCRCTL	VS COBOL2 Compiler	6510	12.2
5. IDCAMS	VSAM Utility	4944	9.3
6. SPCHLCOB	COBOL2 Report Writer	4226	7.9
7. SAS370	SAS Version 6.06	1411	2.7
8. SPSS	SPSS Version 4.0	992	2.9
9. IEBPTPCH	IBM List Utility	942	1.8
10. SASLPA	SAS Version 5.18	923	1.7

February Top Ten MVS Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. SASLPA	SAS Version 5.18	71991	30.4
2. SAS370	SAS Version 6.06	60770	25.6
3. PGM=*.DD	Compiled Program	29103	12.3
4. SPCHLCOB	COBOL2 Report Writer	10658	8.7
5. IGYCRCTL	VS COBOL2 Compiler	9699	4.1
6. SPSS	SPSS Version 4.0	9692	4.1
7. COMPLET4	Academic COM-LETE	9163	3.9
8. SSS4001	Operations Automation	7240	3.1
9. IEWL	Linkage Editor	5196	2.2
10. IDCAMS	VSAM Utility	2480	1.0

March Top Ten MVS Programs : Frequency Of Runs

Program	Description	# of Runs	% of Total
1. IEBGENER	IBM Utility	20733	21.2
2. IEWL	Linkage Editor	15076	15.4
3. PGM=*.DD	Compiled Program	13881	14.2
4. IDCAMS	VSAM Utility	11407	11.7
5. SPCHLCOB	COBOL2 Report Writer	10414	10.6
6. IGYCRCTL	VS COBOL2 Compiler	8763	9.0
7. IEFBR14	IBM Null Utility	6390	6.5
8. CASMA001	Sort Utility	2845	2.9
9. IEBPTPCH	IBM List Utility	1670	1.7
10. SAS370	SAS Version 6.06	1183	1.2

March Top Ten MVS Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. SAS370	SAS Version 6.06	49842	20.9
2. SPCHLCOB	COBOL2 Report Writer	43674	18.3
3. SASLPA	SAS Version 5.18	39604	16.6
4. PGM=*.DD	Compiled Program	35520	14.9
5. SPSS	SPSS Version 4.0	14719	6.2
6. IGYCRCTL	VS COBOL2 Compiler	12581	5.3
7. IEWL	Linkage Editor	8285	3.5
8. COMPLET4	Academic COM-LETE	7779	3.3
9. SSS4001	Operations Automation	6055	2.5
10. IDCAMS	VSAM Utility	4633	1.9

MAINFRAME TECHNICAL SERVICES

April Top Ten MVS Programs : Frequency Of Runs

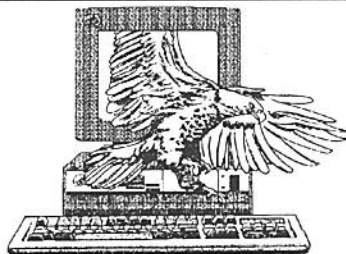
Program	Description	# of Runs	% of Total
1. PGM=*.DD	Compiled Program	18208	15.2
2. IEWL	Linkage Editor	17513	14.6
3. IEBGENER	IBM Utility	14762	12.3
4. IDCAMS	VSAM Utility	14623	12.2
5. IGYCRCTL	VS COBOL2 Compiler	13743	11.4
6. IEBPTPCH	IBM List Utility	11126	9.3
7. IEFBR14	IBM Null Utility	9066	7.5
8. SPCHLCOB	COBOL2 Report Writer	8697	7.2
9. IEV90	Assembler H	2238	1.9
10. CASMA001	Sort Utility	2145	1.8

April Top Ten MVS Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. PGM=*.DD	Compiled Program	54439	21.6
2. SPCHLCOB	COBOL2 Report Writer	41142	16.3
3. SAS370	SAS Version 6.06	40426	16.0
4. SASLPA	SAS Version 5.18	29581	11.7
5. SPSS	SPSS Version 4.0	24652	9.8
6. IGYCRCTL	VS COBOL2 Compiler	17632	7.0
7. IEWL	Linkage Editor	1818	3.2
8. COMPLET4	Academic COM-LETE	6788	2.7
9. SSS4001	Operations Automation	5924	2.3
10. IDCAMS	VSAM Utility	5180	2.1

Disk Backup Schedules

SYSTEM	BACKUP	DESCRIPTION
Administrative MVS/SP	Daily	Monday - Friday around 7 p.m. (after COM-LETE is shut down) & on Saturday & Sunday if COM-LETE has been up that day.
	Weekly	Full pack dumps taken each Sunday morning.
	Monthly	Full pack dumps taken on the first day of each month.
Academic MVS/SP	Daily	Monday - Sunday during the early hours of the morning.
	Weekly	Full pack dumps taken each Sunday.
	Monthly	Full volume dumps taken on the first day of each month.
MUSIC/SP	Daily	Wednesday - Monday starting at 4 a.m. and lasting about 30 minutes.
	Weekly	Tuesday mornings at 3 a.m., these last about 2 hours.
	Semester	Once a semester, a permanent backup is taken.
VM/XA	VM Weekly	Early every Wednesday morning.
	CMS mini-disks	Daily backup performed early every morning. Weekly backup every Tuesday starting after Midnight.
	Semester	Once a semester, a permanent backup is taken.
VAXcluster	Daily	Incremental backups are performed Monday - Thursday at 6 p.m. Saturday & Sunday at 5 p.m.
	Weekly	Full backups are performed every Friday beginning at 8 a.m. Generally lasts all day.
	Monthly	A "stand-alone" backup is performed monthly. Dates and times are given in the system log-on message.
	Semester	Once a semester, a permanent backup is taken.
Solbourne	Daily	Incremental backups are performed Sunday - Friday at 2 a.m.
	Weekly	Full backups are performed every Saturday at 5 a.m.
	Semester	Once a semester, a permanent backup is taken.



**University
of North
Texas
Computing
Center**

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Steve Minnis, Director of Mainframe Technical Services

CLIP TIP

Computing Center Phone List

(May 1993 — Revised)

<u>Name</u>	<u>Phone</u>	<u>Office</u>	<u>Name</u>	<u>Phone</u>	<u>Office</u>
Abdallah, FADEL	565-4885	ISB 006H	Jones, Robert RJONES	565-2723	MH 211
AMBUEHL, Margaret	565-2240	MH 204	JOPLING, Jenny	565-4462	ISB 006C
ANSARI, Mehrdad	565-4360	GAB 560	KENNEDY, Virginia	565-4981	MH209
Aswalap, JOY	565-3883	MH 212	KOEPP, Cynthia	565-4898	ISB 134E
BACZEWSKI, Philip	565-3886	ISB 127	Koldjeski, Paul PTK	565-3477	ISB 240
Bass, Rocky	565-3881	ISB 142	Laosirirat, PHANIT	565-4066	ISB 131
Belcher, Bill	565-3897	ISB 227	LINKE, Luanne	565-2716	ISB 230
Bhattacharya, SUMANGala	565-4898	ISB 134E	LOHER, Darren	565-4885	ISB 006H
Borgailo, BARBARA	565-3888	MH 212	LYNCH, Claudia	565-4068	ISB 125
Brooks, JENNY	565-3857	MH 230	MADLOCK, Janice	565-3893	ISB 224
Brooks, Phillip	565-4069	ISB 142	MANER, Mike	565-3868	ISB 006F
BUNTAIN, Bill	565-4802	ISB 006I	MCMAINS, Sean	565-2039	ISB 134W
BURRUS, Scott	565-4064	MH 213	MEARS, Andy	565-2324	ISB 119
BUTLER, Don	565-3884	MH 206	MINNIS, Steve	565-3866	ISB 243
CHANG, Fee	565-3434	MH 215	MORROW, George	565-3882	ISB 132
Chaudry, QAIS	565-2324	ISB 119	MURDOCK, Mike	565-4314	ISB 134C
CHEVLI, C.R.	565-4169	ISB 006G	NEALE, Eriq	565-4808	ISB 124
COLEMAN, Carol	565-2510	MH 214	PARIVASH, Said	565-3975	MH 221
COPELAND, Blair	565-4180	ISB 006D	PIERCE, Susan	565-4065	ISB 235A
CREWS, Jana	565-2326	MH 230	POLLOCK, Bruce	565-4794	ADM 001
DATA ENTRY	565-3887	ISB 140	Prijosoelilo, ANTO	565-4118	ISB 134H
Desai, SHRI	565-2324	ISB 119	Rahman, OVEE	565-4293	ISB 134D
DIVERS, Brian	565-4780	ISB 134W	Sanders, RABON	565-4152	GAB 560
DODD, John	565-3858	ISB 123	SARINGER, Bob	565-4191	ISB 006E
Dowdy, RACHELD	565-3887	ISB 140	SCANNER ROOM	565-2213	ISB 140
DROWN, Maureen	565-4148	MH 215	SHAW, Howard	565-3973	MH 208
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DYSART, John	565-3889	MH 209	Sittiwong, PANU	565-2140	ISB 129
ELLIS, Nevin	565-4190	ISB 228	SOUTH, Patrick	565-4830	ISB 134F
EVANS, Kelly	565-3859	ISB 235	StGil, Marc MSTGIL	565-3408	ISB 128
FAX Phone Number	565-4060	ISB 133	STRANGE, Dan	565-2929	MH 227
FISHER, Nancy	565-3977	MH 220	STRAUSS, Chris	565-4979	ISB 120
FORD, Charlotte	565-3858	ISB 123	SUMMERS, Pam	565-3473	ISB 123
FRANEK, Randy	565-2291	ISB 241	SUPPORT SERVICES	565-2324	ISB 119
FRANKLIN, Sandy	565-3856	ISB 134J	SWATLOSKI, Don	565-4062	ISB 231
Freeman, LAWANA	565-4360	GAB 560	THACKER, Mark	565-2568	ISB 134G
GANDEL, Paul	565-3854	ISB 121	Thanavibulpol, LEK	565-3587	MH 210
Gouaux, AMOS	565-3408	ISB 128	VAX Operators	565-4161	GAB 511
GRAHAM, Michael	565-4153	GAB 560	WALDON, Jerry	565-3865	ISB 245
Graham, SHAUNA	565-4163	GAB 560	WALLACE, Linda	565-4981	MH 207
Grise, BETTYG	565-3894	ISB 130	Wang, Rong	565-2241	MH 205
GROOMS, Mahshid	565-3958	MH 228	WIGINTON, Mike	565-3898	ISB 244
HARDY, Cathy	565-3891	ISB 126	WILLIAMS, George	565-4067	ISB 242
HARRIS, Richard	565-3853	ISB 235D	Williams, Mike	565-3880	ISB 142
Harrison, SUEH	565-3859	ISB 235	WONG, Meng Long	565-3376	MH 210
HARWELL, Marlane	565-2324	ISB 119	WRIGHT, Mike	565-3632	ISB 134A
HOGGARD, Coy	565-3855	ISB 235B	Yarbrough, JAMES	565-4066	ISB 131
HOOPER, John	565-2219	MH 203	YOUNG, David	565-3869	ISB 249
I/O STATION	565-3860	ISB 133			
ISB 110 (ACS) LAB	565-3048	ISB 110			
ISLAM, Faisal	565-3959	MH 208			
JACKSON, Earl	565-3478	ISB 229			

NOTE: Staff names in CAPS are their WordPerfect Office mail IDs on the CC1 file server. MH=Marquis Hall, GAB=General Academic Bldg., ISB=Information Science Bldg.

Computing Center Short Course Registration Form

Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling (817) 565-2324. **FACULTY AND STUDENTS HAVE FIRST PRIORITY TO REGISTER FOR THESE CLASSES. A VALID USER-ID IS REQUIRED FOR CLASSES MARKED WITH AN ASTERISK (*).** Academic Computing Services reserves the right to cancel ANY course that has 5 people or less registered 3 days before the date of the course.

NAME: _____ FACULTY ___ STAFF ___ STUDENT ___
DEPT: _____ UNDERGRADUATE ___ GRADUATE ___
PHONE: _____ MAILING ADDRESS: _____
SSN: _____ USER-ID: _____
Staff: SUPERVISOR SIGNATURE: _____

I wish to attend:

- **Intro. to Pegasus Mail (ISB 110):**
___ Thursday, July 1: 2-5 p.m.
___ Thursday, July 15: 2-5 p.m.
- **Intro. to SAS on CMS (ISB 110)*:**
___ Thursday, June 24: 3-4 p.m.
- **Intro. to IBM JCL (ISB 134B):**
___ Wednesday, June 16: 3-5 p.m.
- **Intro. to SPSS (ISB 110)*:**
___ Wednesday, June 23: 1-4 p.m.
- **Intro. to Electronic Mail & Discussion Groups on CMS (ISB 134B):**
___ Wednesday, June 30: 3-5 p.m.
- **Intro. to Internet Tools (ISB 134B):**
___ Wednesday, July 21: 3:30-5 p.m.
- **Intro. to UNIX (Chilton 255)*:**
___ Thursday, June 17: 3-5 p.m.
- **Intro. to SAS on UNIX (ISB 110)*:**
___ Tuesday, June 29: 4-5 p.m.
- **Intro. to Macintosh (ISB 110):**
___ Thursday, June 10: 3-5 p.m.
- **Intro. to CMS (ISB 110)*:**
___ Monday, June 14: 3-5 p.m.
___ Monday, July 19: 3-5 p.m.
- **Intro. to SAS (ISB 110)*:**
___ Tuesday, June 22: 2-4 p.m.
- **Intro. to VAX/VMS (Chilton 255)*:**
___ Wednesday, June 16: 3-5 p.m.
- **Intro. to SPSS PC+ (ISB 110):**
___ Monday, June 28: 2-5 p.m.
- **Intro. to Electronic Mail & Discussion Groups on VMS (ISB 134B):**
___ Wednesday, July 14: 3-5 p.m.
- **Intro. to Procomm+ (Chilton 255):**
___ Wednesday, June 23: 2-3 p.m.
- **Intro. to vi (Chilton 255)*:**
___ Monday, June 21: 3-5 p.m.
- **Intro. to DOS (Chilton 255):**
___ Wednesday, June 9: 3-5 p.m.
- **Intro. to WP 5.1 (ISB 110):**
___ Thursday, June 17: 9 a.m.-Noon

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